



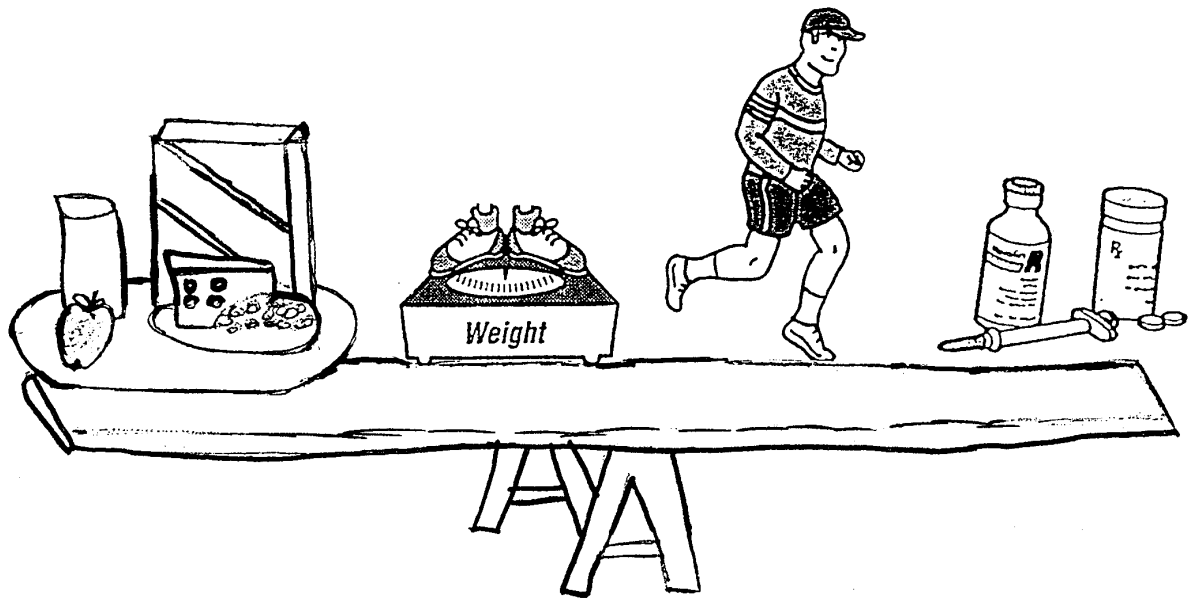
Don't Guess - Get Answers

Pee Dee Diabetes Education Manual



South Carolina Department of Health
and Environmental Control

CONTROL DIABETES BY



DIET

GOOD BODY
WEIGHT

EXERCISE

MEDICATIONS

This workbook is designed for use by anyone who has diabetes. The material included covers general information about diabetes and skills needed to better manage diabetes. Initially, the workbook will compliment the educational sessions provided by professionals of the Pee Dee DHEC Diabetes Education Program. Additionally, it may be a resource for individuals as they continue to manage their disease.

acknowledgement page

Developing a training manual could never be a one person job.

This training manual would not have been possible without the foresight and hard work of the Pee Dee DHEC Diabetes Planning Committee. This committee, chaired by Gwen Davis, District Diabetes Coordinator, saw the need and developed a task force to fulfill that need. The task force was made up of Teresa Canipe, RN, CDE as chair, Cindy Smith, RN, CDE and Susan Lellis, RD.

Over the course of nine months, this group used expert creativity, perseverance and commitment to develop this diabetes educational tool for the clients we serve. Brenda Norwood, Pee Dee Public Information Coordinator, and Scott Kirchner, Graphic Designer, provided the guidance to shape this manual into what you see today.

We would like to give credit to the following agencies and companies:

- American Diabetes Association
- American Dietetic Association
- various pharmaceutical companies

Finally, we would like to dedicate this diabetes education manual to our clients. We hope this manual will be a tool to increase their knowledge and aid their self-management of their diabetes.

Diabetes Planning Committee
Pee Dee Public Health District
South Carolina Department of Health and Environmental Control

Elizabeth Blakey, RD
Pam Clayton, RN
Debbie Edgeworth, RN
Susan Lellis, RD
Gwen Davis, RN, MN, CDE
District Coordinator

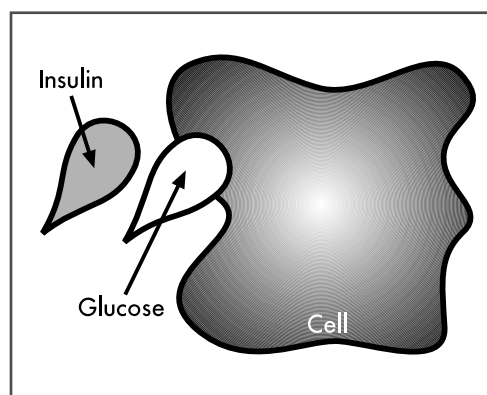
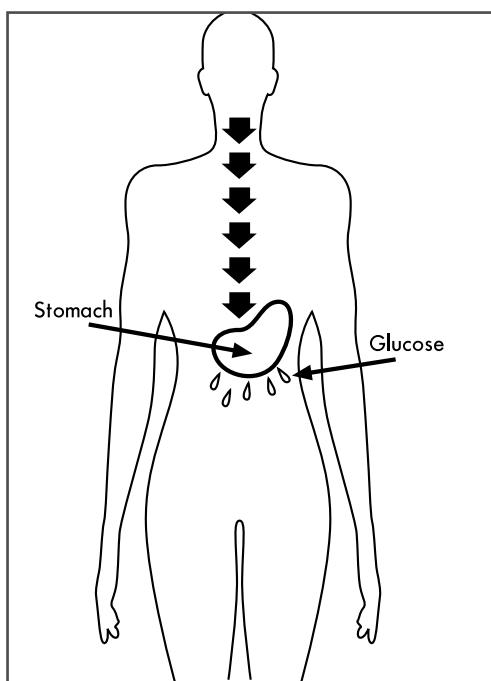
Teresa Canipe, RN, BSN, CDE
Lori Creech, CHES
Jeannie Horne, RN, CDE
Cindy Smith, RN, CDE

table of contents

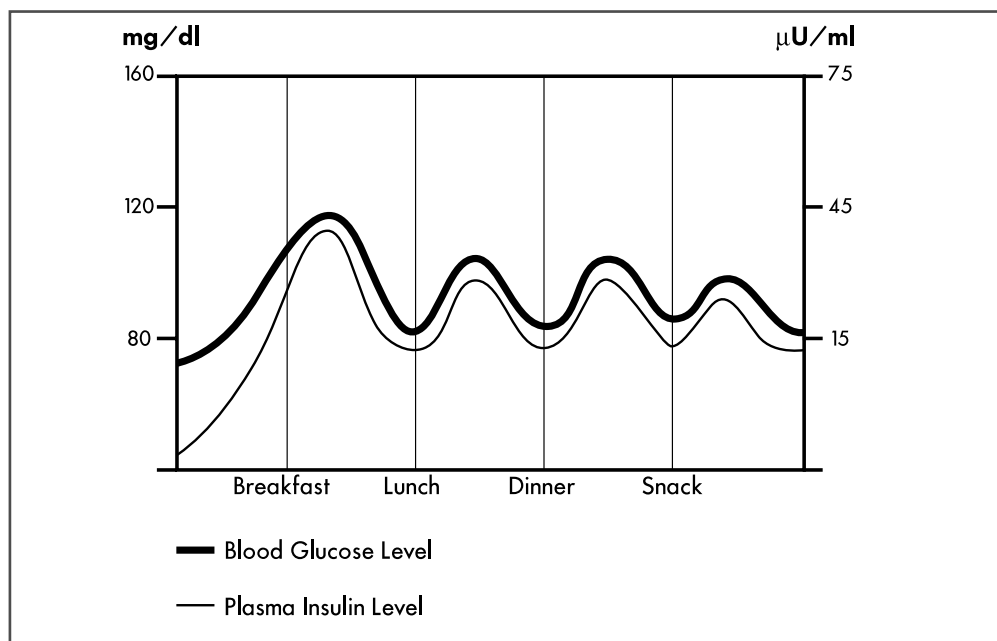
I.	What is Diabetes	1
	Types of Diabetes	3
	Target Blood Sugar Levels	5
	Hypoglycemia	7
	Hyperglycemia	13
	Monitoring Blood Sugar.....	17
	Sick Day Management.....	20
II.	Basics of Eating.....	25
III.	Meal Planning	39
	Guidelines for Use of Alcoholic Drinks	42
	Eating Away From Home.....	43
IV.	Physical Activity	47
V.	Medications.....	57
	Pills.....	58
	Insulin	69
	Giving an Insulin Injection	76
VI.	Long Term Complications	
	Diabetes and Your Blood Vessels (Circulation)85	
	Your Heart and Cholesterol	90
	Your Kidneys (Nephropathy)	95
	Blood Pressure (Hypertension).....	98
	Diabetic Eye Disease.....	102
VII.	Personal Health Habits	
	Foot Care.....	107
	Dental Care.....	115
VIII.	Travel and Vacation	118
IX.	Stress and Coping.....	125
X.	Putting the Pieces Together	
	Take Control–Set Goals	131

normal blood and insulin levels

The foods that you eat turn into glucose. Glucose is a kind of sugar. It goes from your stomach into your blood stream.

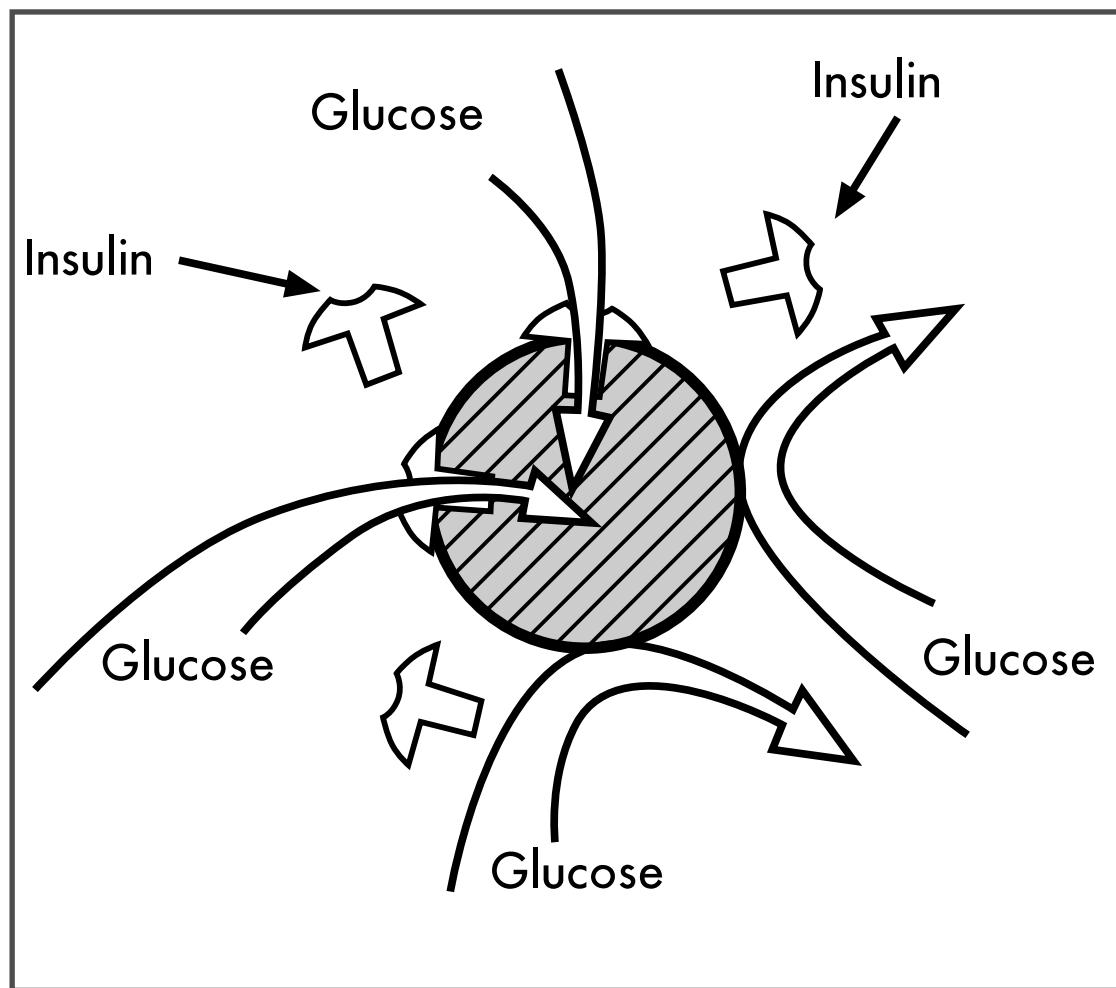


Insulin helps glucose move into your body's cells. Your body then uses the glucose as energy.



insulin resistance

Insulin is the “key” to allow glucose into our cells for use as energy. With diabetes, our body becomes resistant to using insulin correctly.



types of diabetes

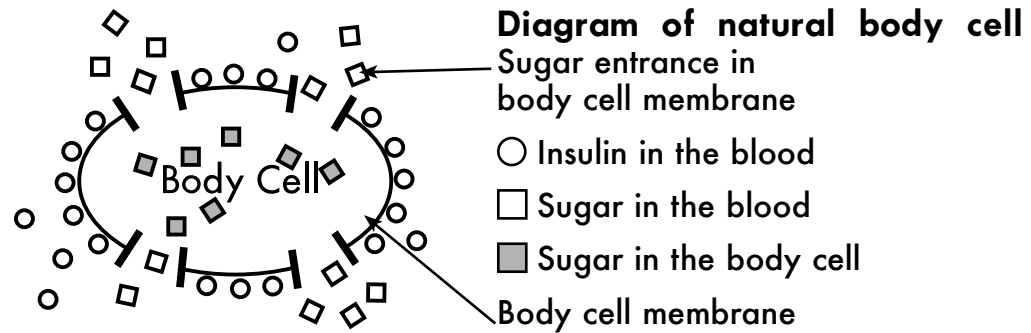


Diagram of body cell in Type 1 Diabetes

Little or no insulin is made. When there is not enough insulin in the blood, the sugar cannot enter the cell. Blood sugar rises. The body has no fuel for energy.

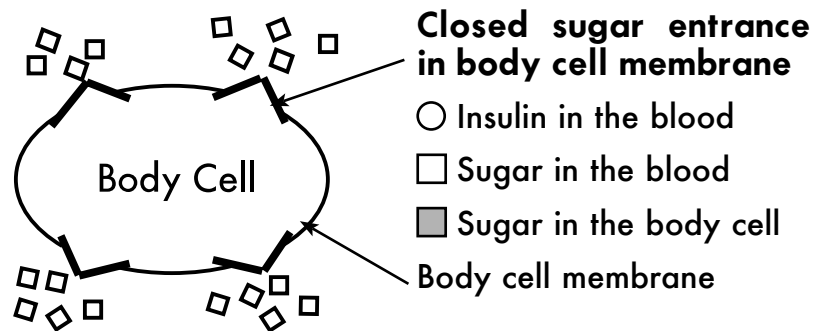
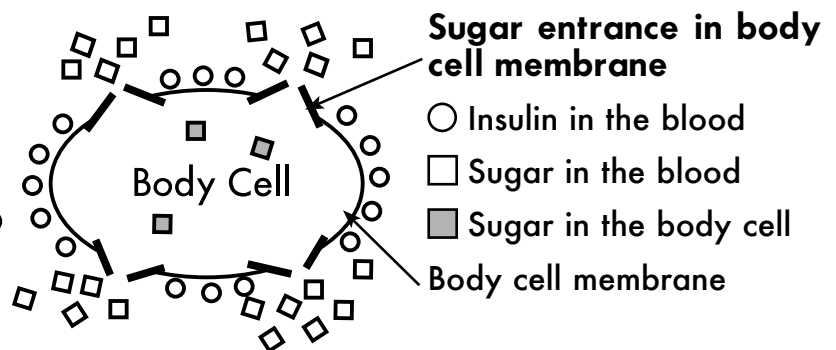












Diagram of body cell in Type 2 Diabetes

The body makes some insulin but cannot use it. If there is a problem with the cell's sugar entrances, little or no sugar can get in. Sugar builds up in the blood. Blood sugar rises.



basic facts of types of diabetes

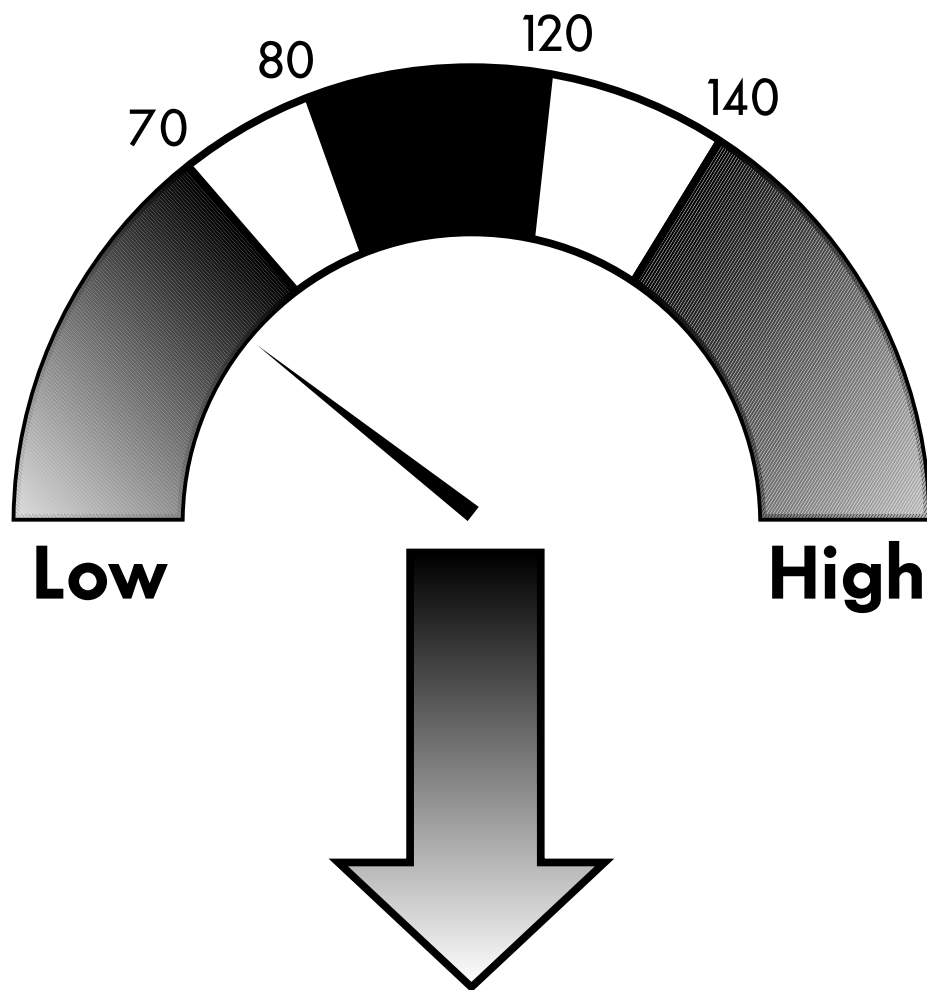
TYPE 1	TYPE 2
 <p>10% of all diabetics</p> <p>Less than 35 years old slender, skinny</p> <p>Signs/symptoms start quickly</p>	<p>90% of all diabetics</p>  <p>Over 40 years old Overweight</p> <p>Starts slowly or have no signs/symptoms</p>
 <p>Increased urination. Go to the bathroom more often.</p>	<p>Blurred vision</p> 
 <p>Thirsty</p>	<p>Cuts heal slowly</p>
 <p>Increased Appetite</p>	<p>Numb/tingling in hands and feet</p> 
 <p>Weight loss</p>	<p>Infections</p> 
 <p>Tired</p>	<p>No ketones</p>
<p>Ketones in the urine</p>	

target blood sugar levels

	People without Diabetes	People with Diabetes: Ideal	People with Diabetes: Target
Before meals	70-115 mg/dl	80-120 mg/dl	80-140 mg/dl
Before bedtime snack	70-120 mg/dl	100-140 mg/dl	100-160 mg/dl
Hemoglobin A1c	Less than 6%	Less than 7%	Less than 8%



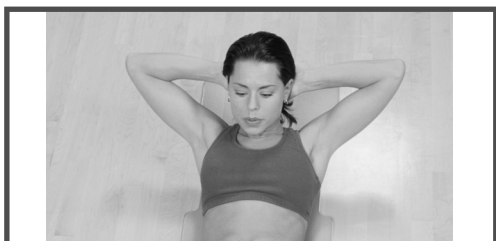
low blood sugar - hypoglycemia



What can cause my blood sugar level to go too low?



Ate too little food.
Ate meal or snack later than usual.
Missed a meal or snack.



Exercised harder or longer than usual.



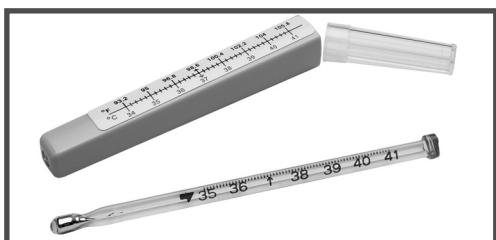
More active than usual.



Taking too much insulin or too many diabetic pills.



Drank alcohol on an empty stomach.



Getting sick.

hypoglycemia

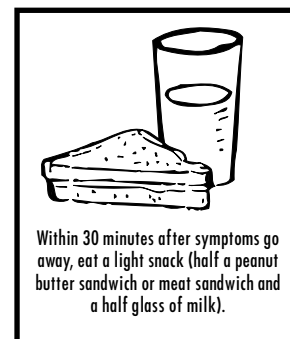
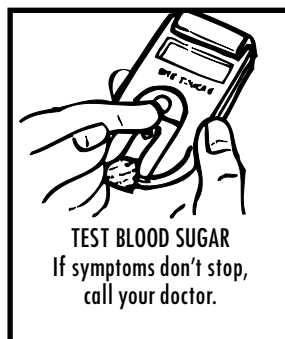
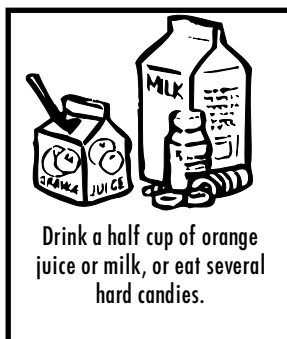
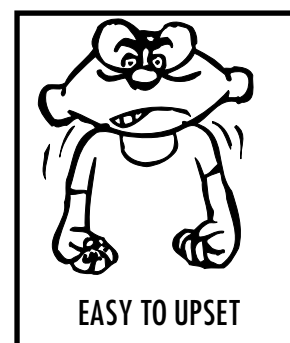
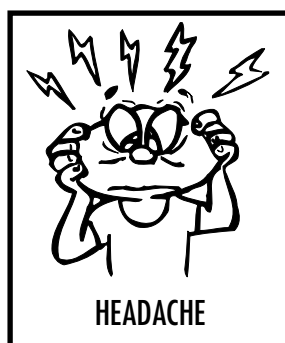
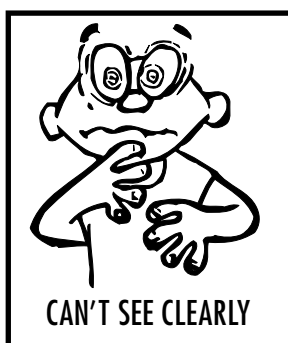
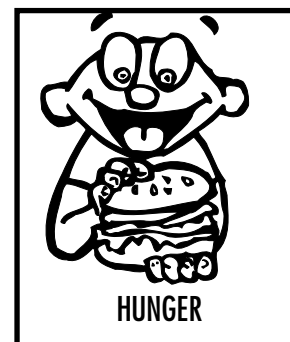
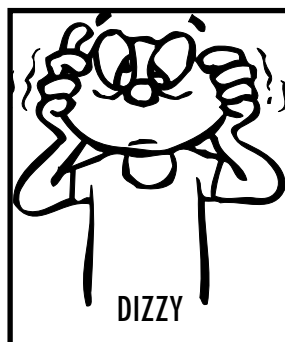
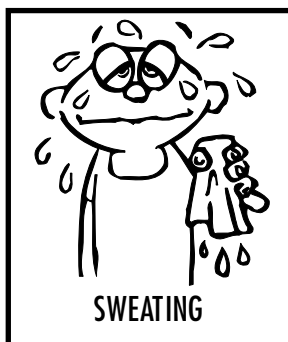
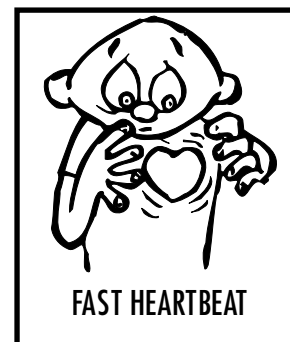
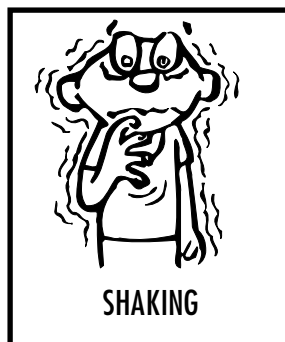
low blood sugar

- Causes:**
- Too little food
 - Too much insulin or diabetes medicine
 - Being more active








Start: Sudden, may progress or shock

Blood

Sugar: Below 70 mg/dl



what can I do to keep my sugars from dropping too low?

-  Eat on time.
-  Do not skip meals or snacks.
-  Check your blood sugars on schedule.
-  Do extra tests when you feel different.
-  Check your blood sugar before exercising, driving or doing heavy work.
-  Eat a snack if your blood sugar is less than 100.
-  Do not take too much medicine.

General Guidelines

- Learn your body's warning signs.
- Treat low blood sugar levels quickly.
- Always carry something with you to treat your blood sugar if it drops too low.
- Wear Medic-Alert jewelry.
- Educate your friends and family on how low blood sugar makes you feel and act. Tell them how to treat low blood sugars.



Date: _____

TO WHOM IT MAY CONCERN:

This letter provides a set of blood glucose guidelines for _____
to follow while driving a car. _____ has diabetes.

I recommend that _____ follow the following blood glucose
guidelines.

1. Always check blood sugar by finger stick prior to driving a car. Do not drive if the blood sugar is less than 80 mg/dl. If the blood sugar is less than 80 mg/dl then eat a fast-acting sugar or some glucose tablets (3 minimum or 15 grams carbohydrates) and check the blood sugar in 15-30 minutes. Continue to treat with fast-acting sugar if blood sugar is less than 80 mg/dl. Do not drive until the blood sugar is above 80 mg/dl.

2. If _____ is driving a car for more than one hour then it is advised to check blood sugar every hour while driving. If at any time the blood sugar is less than 80 mg/dl then follow the same guidelines as outlined in #1.

3. If while driving the car _____ has any symptoms of hypoglycemia such as sweating, feeling sleepy, rapid heart rate, dizziness, blurred vision and/or mental confusion, he/she is directed to pull the car over to the side of the road and check blood sugar immediately. Then follow the same steps as outlined in #1. Do not operate a car until the guidelines as outlined in Step #1 are followed.

_____ has been instructed to follow these guidelines. We have reviewed them in detail together. _____ has been informed that failure to follow these guidelines could result in personal harm or harm to others on the highway.

Patient's Signature

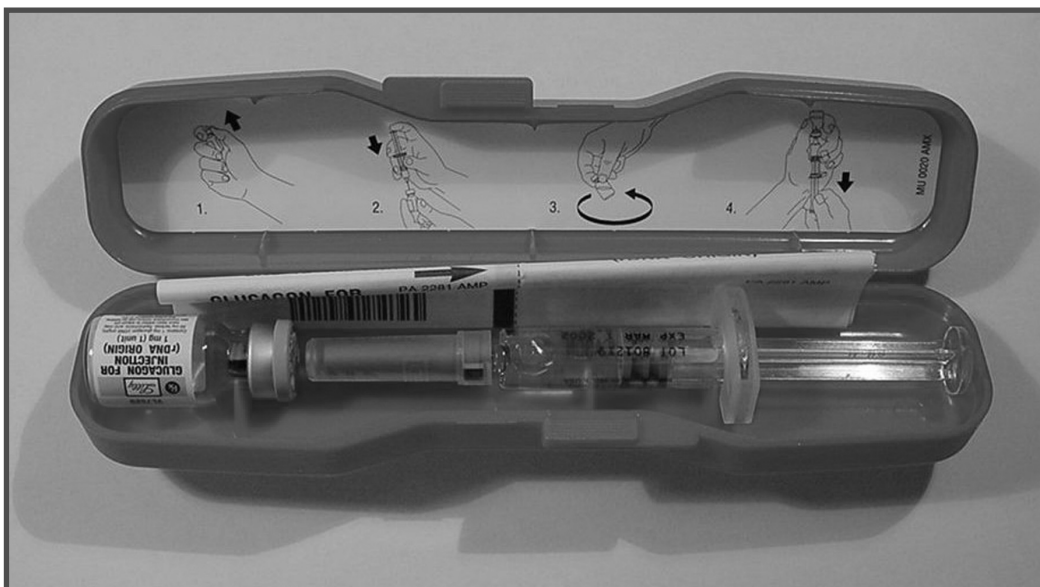
Diabetes Educator's Signature

Please let me know if I can be of any further assistance.

Cc: Patient's chart

Phone number _____

glucagon: for severe hypoglycemia



Glucagon is a treatment for low blood sugar (hypoglycemia). It is a shot that is given into the muscle—the arm, thigh, or buttocks. It needs to be given if you cannot swallow or if you have passed out.

If no one knows how to give glucagon, call **911 immediately**. If available, someone can moisten their fingertip and dip the finger in table sugar to rub the sugar on the inside of your cheek, or someone can use a tube of glucose gel or cake frosting to rub inside the cheek also.

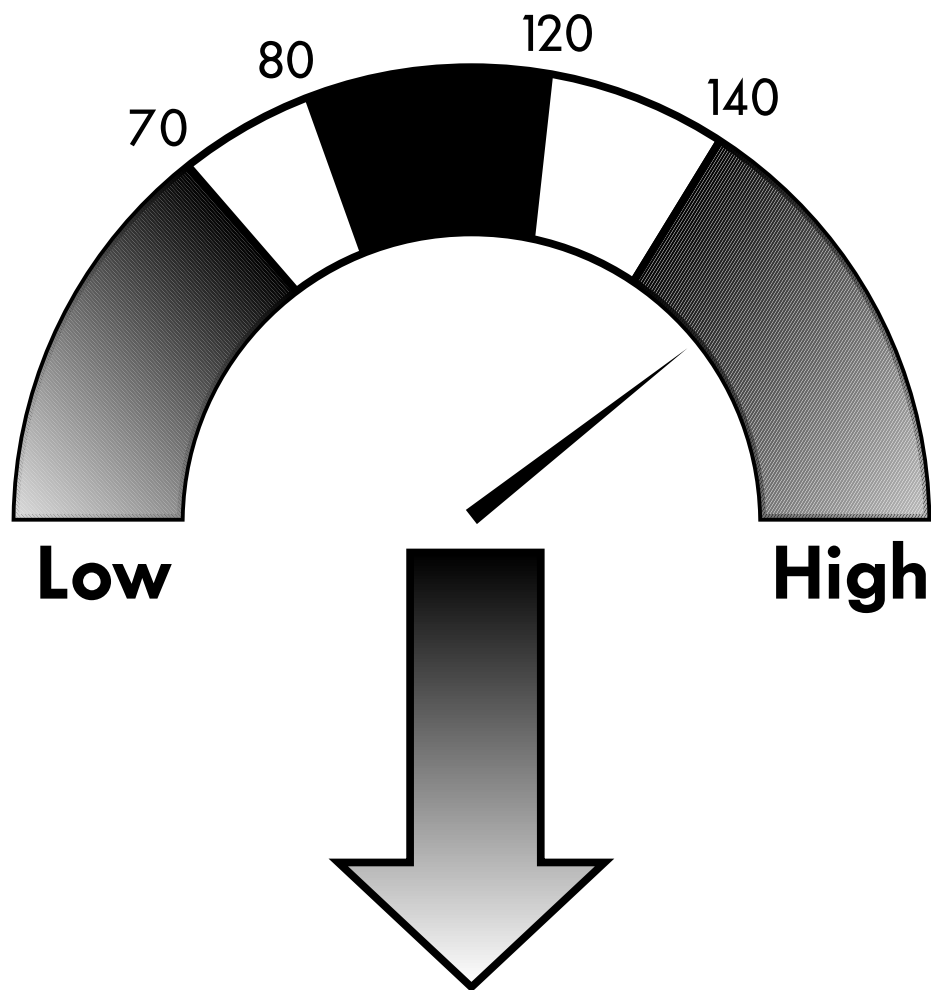
Steps to take

- ☐ Ask your doctor for a prescription for the glucagon kit
- ☐ Have the kit with you always
- ☐ Teach someone how to give the injection

Precautions for use of glucagons

- ☐ Glucagon can make you vomit. Be sure the person who gives the shot knows to turn you on your side in case you vomit.
- ☐ After you have recovered, check your blood sugar every 30–60 minutes to be sure your blood sugar does not drop again.
- ☐ Once you are alert, eat a carbohydrate snack that is easy on your stomach, such as 6 saltine crackers. Follow up with a snack of meat, peanut butter or low-fat cheese.

high blood sugar - hyperglycemia



what can cause my blood sugar to go too high?



Eating too much food



Exercising less



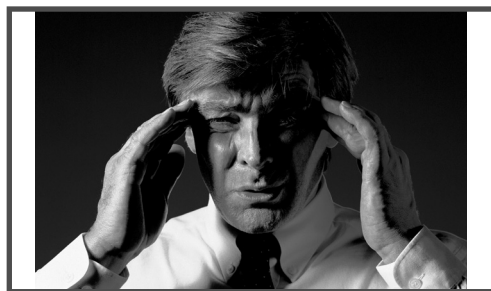
Not taking your diabetic medication



Not taking enough diabetic medication



Getting sick



Stress

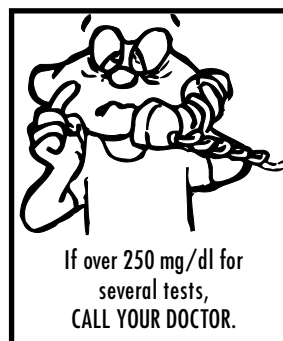
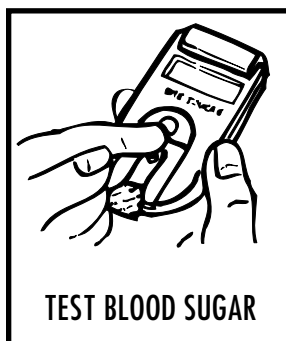
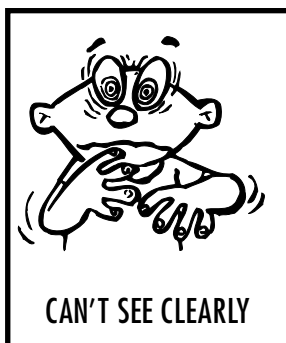
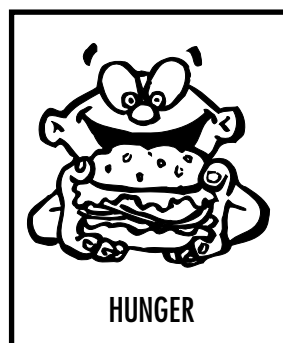
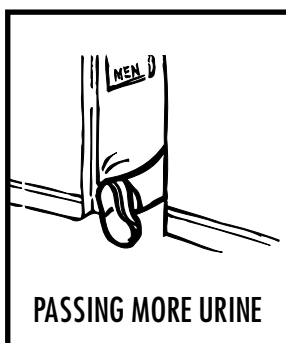
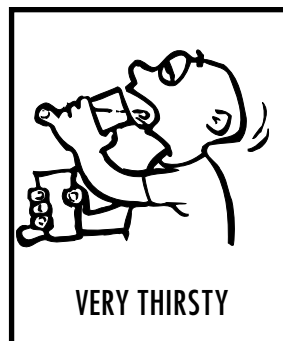
hyperglycemia

- Causes:
- Too much food
 - Too little insulin or diabetes medicine
 - Illness or stress

Start: Little by little,
may lead to coma

Blood

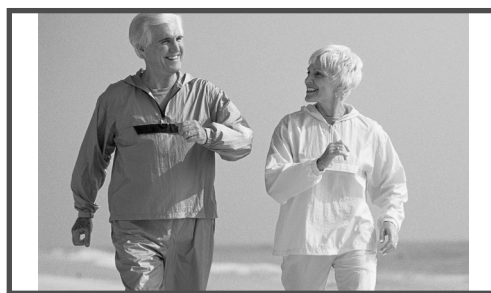
Sugar: Above 200 mg/dl



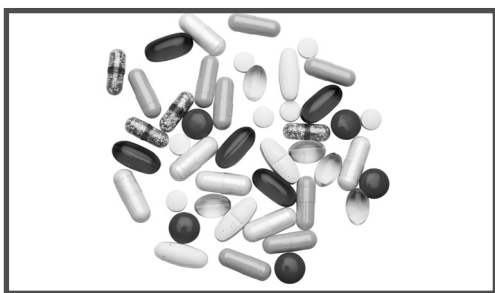
what can I do to manage high blood sugar?



Follow your meal plan



Exercise



**Take the right amount of
diabetic medication
every day**



Test your blood sugar



Wear Medic-Alert jewelry



**Tell a friend about the
signs of high blood sugar**

keeping records

Write down what your blood sugar was, and the date and the time that you tested it. Write it down even if you have a memory on your meter. The memory should not replace your logbook.

Important things to add to your log:

- If you miss a meal or snack.
- If you eat a meal or snack that is too large or too small.
- If you drink alcoholic beverages and how much you drank.
- When you took your medicine.
- If you exercised and how long you exercised.
- What you did to treat a blood sugar that was too high or too low.
- If you were sick, upset or have just had surgery.

	Breakfast		Lunch		Supper		Bedtime		Other		Ketones	Comments
	Dose	Blood Glucose	Dose	Blood Glucose	Dose	Blood Glucose	Dose	Blood Glucose	Dose	Blood Glucose		
Sun	18L 6R	220			10L 4R			100			7 A.M. SM	Ate at 10 A.M.
Mon	18L 4R	80		120	12L 4R	170		140		30	7 A.M. Neg	Reaction 3 A.M.
Tues	18L 4R	240		180	12L 4R	240		110		70	7 A.M. SM	Walk 7-8 P.M.
Wed	18L 4R	90			10L 4R	120		80		90	10 P.M. Neg	Walk 7-8 P.M.
Thur	18L 4R	100			10L 4R	180					7 A.M. Neg	Walk 7-8 P.M.
Fri	18L 4R	120		150	10L 4R	160		120			6 P.M. Neg	
Sat	18L 4R	90		70	10L 4R	180		240			10 P.M. Neg	Ate 9 A.M. Tennis 10-12 Reaction 3 P.M.

tips for checking your blood sugar

DO

Get all the supplies that you need to check your blood sugar.

Wash your hands in warm water.

Dangle your fingers at your side for 30 seconds before you prick your finger.

Squeeze your finger below the place where you are going to prick it until it becomes red.

Keep your hand below the level of your heart while you wait for a large enough drop of blood.

Prick your thumb or 4th finger. They have a rich blood supply.

Make sure you recap your bottle of strips after you get the strip that you are going to use out.

Clean your meter the way your directions tell you to.

DON'T

Don't prick the middle of the fingertip; prick the side.

Don't use meters, lancets or other supplies that do not belong to you.

Don't share your meter, lancets, or other supplies.

Don't keep your strips in a place that is too hot, too cold or is humid, like a bathroom.

Don't use strips if the date on the bottle shows the strips are expired.

Don't forget to use check strip and glucose control.

Don't re-use a lancet to prick your finger.

When do I need to check my blood sugar?

Your doctor or diabetic educator can help you decide when to check your blood sugar.

There are eight times of the day to choose from:

1. Before breakfast
2. 1-2 hours after breakfast
3. Before lunch
4. 1-2 hours after lunch
5. Before supper
6. 1-2 hours after supper
7. Before bedtime
8. Between 2-3AM

are there times I need to check my blood sugar more often?



These times may be:

1. When your doctor is trying to decide how much insulin or diabetes medicines you need.
2. When you change your exercise program, or when you change what you eat.
3. When you start a new medicine that can change your blood sugar.
4. When you think your blood sugar is too high or too low.
5. When you are sick.
6. When you are pregnant.
7. Before and after exercise, and if you exercise for more than 1 hour.
8. Before you drive.



being sick means:

Nausea and/or vomiting (throwing up)

Head or chest cold

Diarrhea (loose watery stools)

Fever (body temperature above 101 degrees F.)

Flu

Stomach Ache

Toothache

Sore Throat



sick day rules

- Test blood sugar frequently (at least every 4 hours)
- Do not miss your insulin dose or your pills
- Call your doctor if:
 - You vomit more than 1 time
 - You have diarrhea more than 5 times or longer than 6 hours
 - Your blood sugar is >300 on 2 consecutive checks
 - you have ketones in your urine
- Drink 8 oz. of calorie-free fluids every hour (water, broth, diet caffeine-free sodas, sugar free kool-aid)
- If vomiting, use a “sipping diet” (snack on a food/drink that contains 15 gram carbohydrates every 1-2 hours)
- If you take insulin, test your urine for ketones every 4 hours until the results are negative
- Other signs and symptoms to look for:
 - Pains in your stomach
 - Fruity breath
 - Diarrhea
 - Fast breathing
 - Vomiting
 - Dry, cracked lips, mouth or tongue

*prepare yourself by keeping
an extra supply of the following:*

- ☑ Insulin syringes
- ☑ Insulin
- ☑ Diabetes pills
- ☑ Lancets
- ☑ BS testing strips
- ☑ Glucose Tablets
- ☑ Thermometer
- ☑ Urine Ketone testing strips
- ☑ Glucagon Emergency Kit
- ☑ Regular ginger ales (not diet)
- ☑ Regular cola (not diet)
- ☑ Instant broth
- ☑ 1 box each of sugar-free and regular Jell-O

Foods with 15 grams of carbohydrates:

- 1/2 cup apple juice
- 5 Lifesavers
- 1 slice dry toast
- 6 saltines
- 1/3 cup frozen yogurt
- 1/4 cup sherbet
- 1/4 cup regular pudding
- 1 cup nonfat, sugar-free yogurt (not frozen)
- 1/2 cup regular soft drink
- 3/4 of double stick Popsicle
- 1/2 cup cooked cereal
- 1 cup broth soup
- 1 cup Gatorade
- 1/2 cup regular ice cream
- 1/2 cup regular Jell-O
- Milkshake (1/3 cup low fat milk and 1/4 cup ice cream)

sick day record

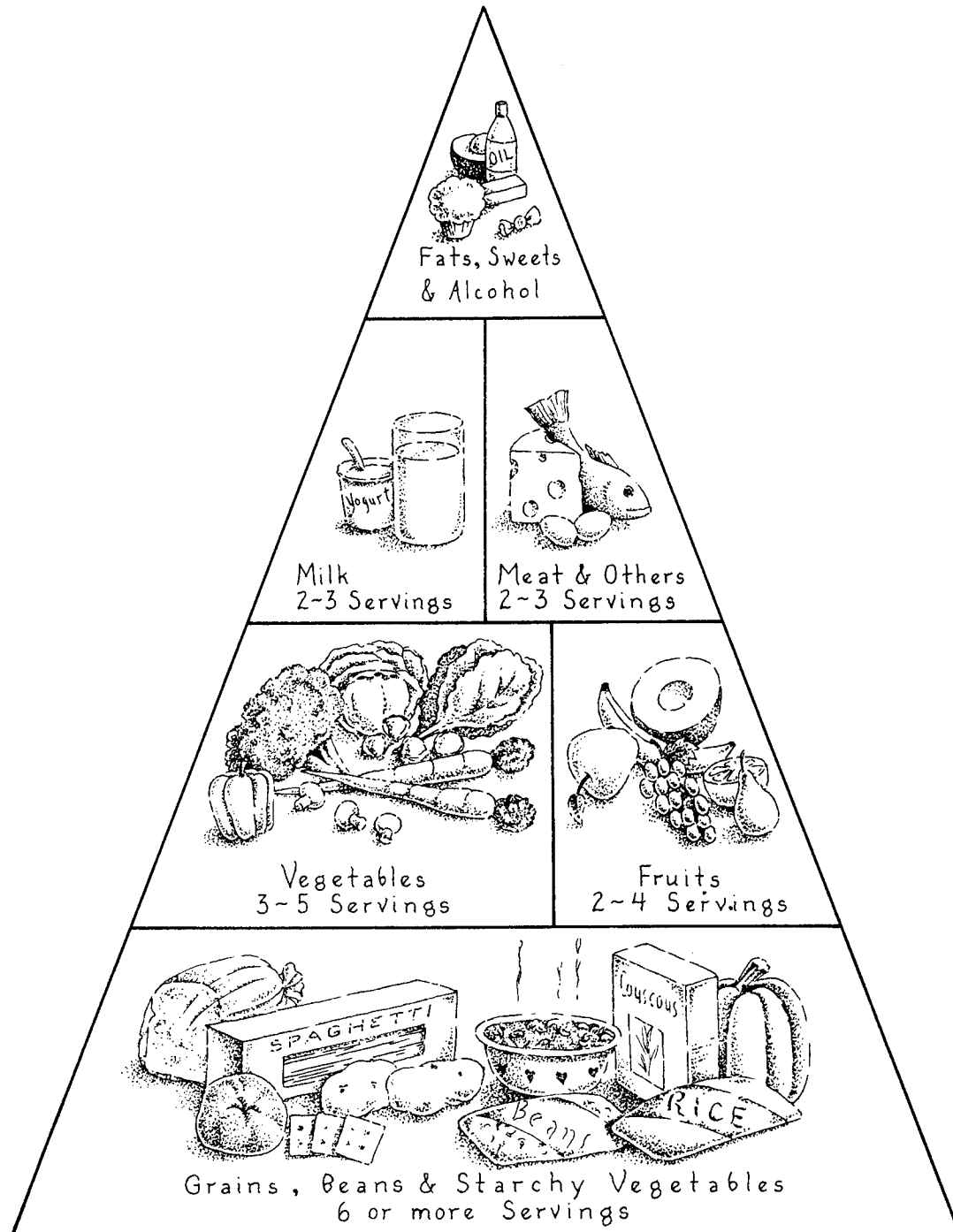
Physician phone: _____ Pharmacy phone: _____

Time	Food/Liquids	Insulin/ Medication	Blood Glucose	Urine Ketones	Symptoms (fever, nausea, vomiting, dizziness, etc.)

class notes

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

what can I eat?



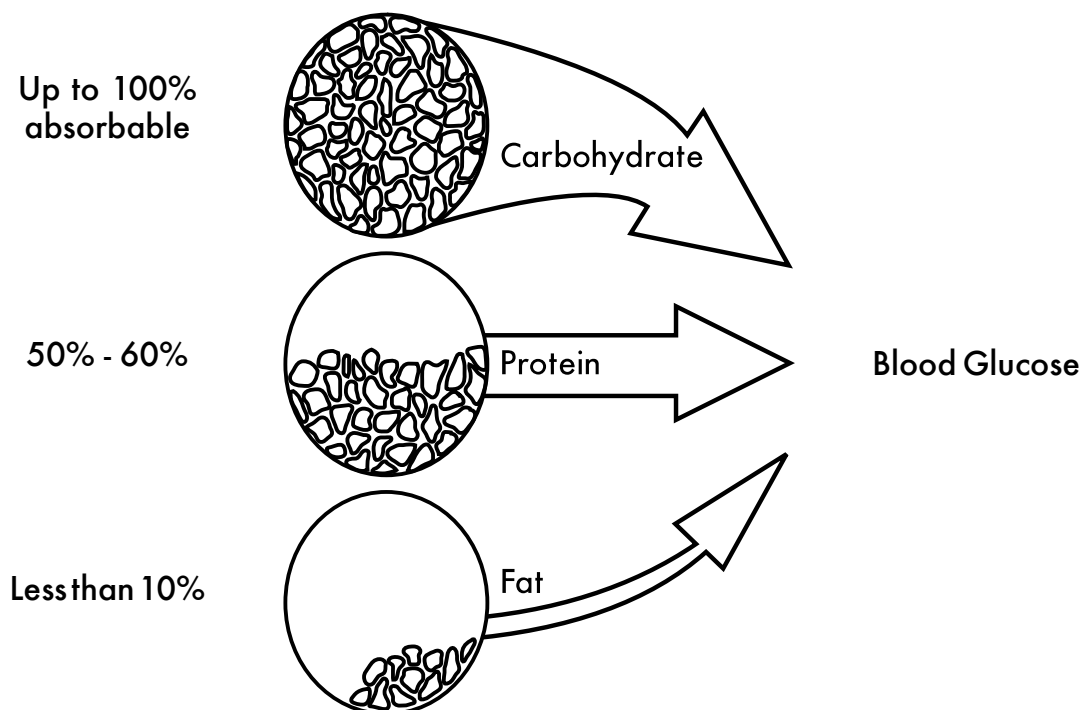
Nutrition goals

reasons for meal planning

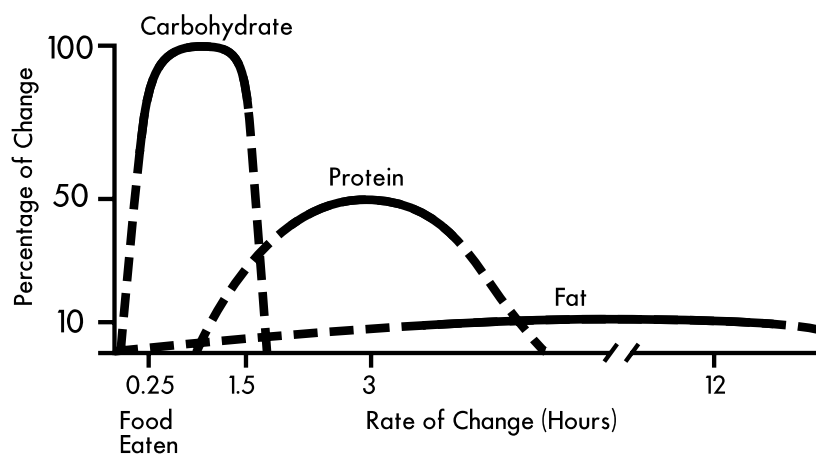
- To maintain blood glucose as near the normal range as possible.
- To maintain cholesterol (blood fat) as near the normal range as possible.
- To provide appropriate calories.
- To prevent, delay, or treat diabetes-related complications.
- To improve health through optimal nutrition.



percentage of nutrients changed to blood glucose



how fast nutrients change to blood glucose



choose foods with less fat

Choose more often



Skim or 1% milk



Fish, Chicken or Turkey



Pretzels



Yogurt



Fresh or cooked vegetables



Plain Baked Potato

Choose less often



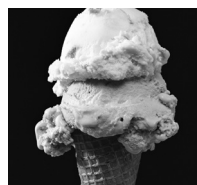
Whole or 2%



Sausage, bacon, bologna,
hot dogs or fat back



Potato Chips



Ice cream



Vegetables with sauce



French Fries

Ways to cut fat:

- Bake, broil, or grill meats
- Use less oil for frying
- Use cooking spray instead of oil or lard for frying
- Trim the fat off meat before you cook it
- Take the skin off chicken and turkey before you eat it

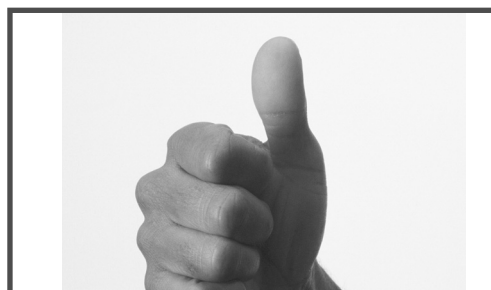
how much should we eat

Learning about serving sizes is important in balancing blood sugar levels. One way to know how much food you are eating is to weigh it or measure it. Use a measuring cup and spoons or a scale.

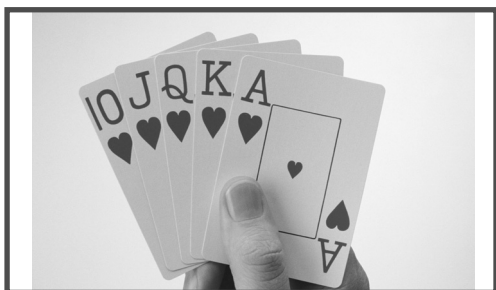
Most people eat more than they realize. After measuring foods for a while, you will often be able to know a serving size just by looking at it.



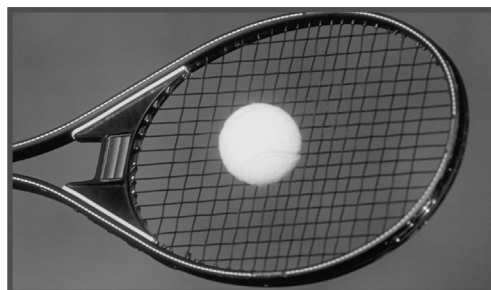
Fist = 1 cup



Thumb = 1 oz. of cheese or
peanut butter



Deck of cards = 3 oz. of meat



1 cup of potatoes = tennis ball



1 piece of cornbread = bar of soap



1 teaspoon butter = stamp

nutrition facts label

Serving Size: 4 graham crackers
Servings per container: 32



Amount per serving
Calories: 80 Calories form fat: 18

Percent of Daily Value*	
Total Fat 2g	5%
Saturated Fat 1g	5%
Cholesterol 0mg	5%
Sodium 66mg	5%
Total Carbohydrate 14g	5%
Dietary Fiber 1g	5%
Sugars 4g	
Protein 2g	



Vitamin A* • Vitamin C*
Calcium* • Iron 3%

* Contains less than 2 percent of the daily value of this nutrient.

* Percent (%) Daily Values are based on a 2,000 - calorie diet. Your Daily Values may be higher or lower, depending on your calorie needs.

Nutrient		2,000 Calories	2,500 Calories
Total Fat	less than	65 g	80 g
Saturated Fat	less than	20 g	25 g
Cholesterol	less than	300 mg	300 mg
Sodium	less than	2400 mg	2400 mg
Total Carbohydrate		300 g	375 g
Dietary Fiber		25 g	30 g

Ingredients: Wheat flour, sugars (sucrose, corn syrup, molasses), partially hydrogenated vegetable oil, lecithin, vanilla

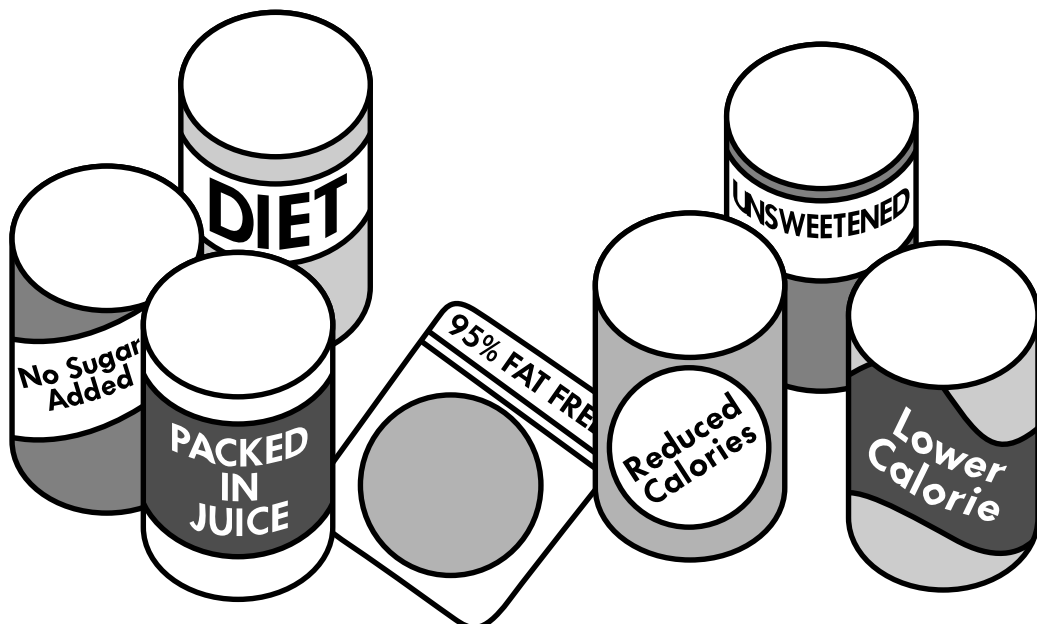
read the label

Free Foods:

- Contain less than 20 calories per serving.
- Total no more than 60 calories per day.



Look for these words on the label



nutrient claims

Nutrients per Serving	Free	Low	Reduced/ Less	Light (Lite)
Calories	Less than 5 calories	40 calories or less	At least 25% fewer calories	At least 1/3 fewer calories
Fat	Less than 0.5 gram of fat	3 grams or less fat	At least 25% less fat	At least 50% less fat
Saturated Fat	Less than 0.5 grams of saturated fat	1 gram or less saturated fat and no more than 15% of calories from saturated fat	At least 25% less saturated fat	Not used
Cholesterol	Less than 2 mg cholesterol and 2 grams or less saturated fat	20 mg or less cholesterol and 2 grams or less saturated fat	At least 25% less cholesterol and 2 grams or less saturated fat	Not used
Sodium	Less than 5 mg sodium	140 mg or less sodium	At least 25% less sodium	At least 50% less sodium
Sugar	Less than 1.2 grams sugars	Not a legal claim	At least 25% less sugar	Not used

eat more fiber



don't eat foods with lots of salt



don't eat foods with lots of sugar



season meat without salt



beef: bay leaf, green pepper, garlic powder, marjoram, mushrooms, nutmeg, onion, sage or thyme



chicken: chili powder, cranberries, dry mustard, garlic, mushrooms, paprika, parsley, poultry seasoning, sage, tarragon thyme



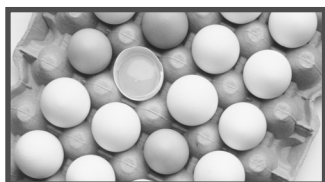
pork: garlic, margoram, onion, oregano, pepper, rosemary, sage or thyme



veal: basil, bay leaf, curry, ginger, marjoram, mint, oregano, paprika, rosemary, sage or tarragon



fish: bay leaf, curry dry mustard, green pepper, lemon juice, marjoram, mint, mushrooms, paprika, pepper, sage, tarragon or thyme



eggs: basil, dry mustard, green pepper, marjoram, mushrooms, onion, paprika, parsley, rosemary or thyme

season vegetables without salt

Asparagus: lemon juice, onion or pepper

Beets: cloves, ginger, lemon juices, tarragon or thyme

Broccoli: lemon juice, oregano or pepper

Carrots: cinnamon, ginger, marjoram, mint, nutmeg, parsley, sage or thyme

Corn: green pepper or pimento

Cabbage: fennel, marjoram, mint, oregano, pepper or tarragon

Green beans: dill seed, lemon juice, marjoram, mint, nutmeg, oregano, rosemary, tarragon or thyme

Eggplant: basil, garlic, onion, sage or thyme

Onions: basil, sage or thyme

Peas: green pepper, marjoram, onion, rosemary, sage or thyme

Potatoes: basil, green pepper, mace, mint, onion, parsley, paprika, rosemary or thyme

Spinach: garlic, lemon juice or onion

Squash: basil, cinnamon, garlic, ginger, mace, nutmeg or onion

Tomatoes: basil, bay leaf, marjoram, onion, oregano, sage or thyme

Seasoning mixture recipe:

Chili powder	1 tsp
Garlic powder	2 Tbsp
Dry mustard	2 Tbsp
Onion powder	6 Tbsp
Ground oregano	2 tsp
Paprika	3 Tbsp
Black pepper	2 tsp
Poultry seasoning	1 Tbsp

Directions: Mix all ingredients together and store in an airtight container.

tsp=teaspoon

Tbsp=tablespoon

keep your food safe

What makes food go bad?

Germs make food spoil and go bad. They get on food and grow. You cannot see germs on food. You cannot always smell or taste them, either. These are some of the foods germs like best:



Meat



Dairy Products



Eggs



Poultry



Seafood

Make sure that you and your kitchen are clean. Use warm water and soap to wash your hands before you touch any food. Be sure to wash your hands again after you handle raw eggs, meat or fish.



Wood cutting boards are very hard to clean. Germs hide in the cracks. Use a plastic or glass cutting board instead. Wash cutting boards with bleach or in the dishwasher.



keep these foods and their juices away from other foods

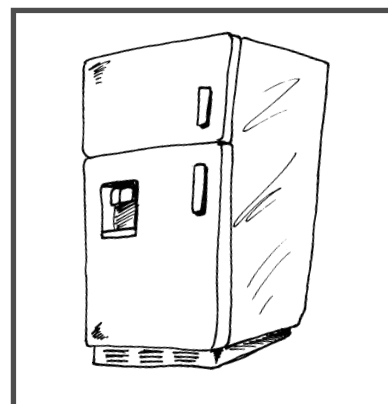
Raw meat, poultry and seafood can spread germs in your kitchen. If you use paper towels, throw them away.

Did you wipe the juices with a dish towel or sponge? Wash it before you use it again.

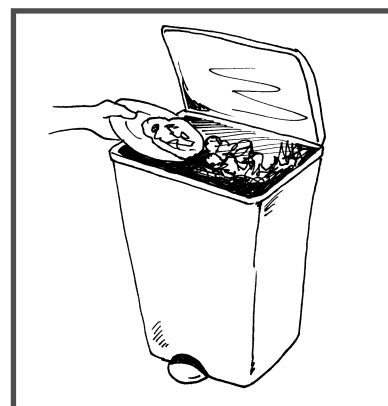


Keep hot food hot (more than 140 degrees F) and cold food cold (below 40 degrees F).

If food is left out for two hours or more, germs can grow. So put leftovers in the fridge or freezer.



If you think a food might be bad, do not taste it. Remember this: when in doubt, throw it out!



the first step in diabetes meal planning

Healthy eating is the first step in taking care of your diabetes:

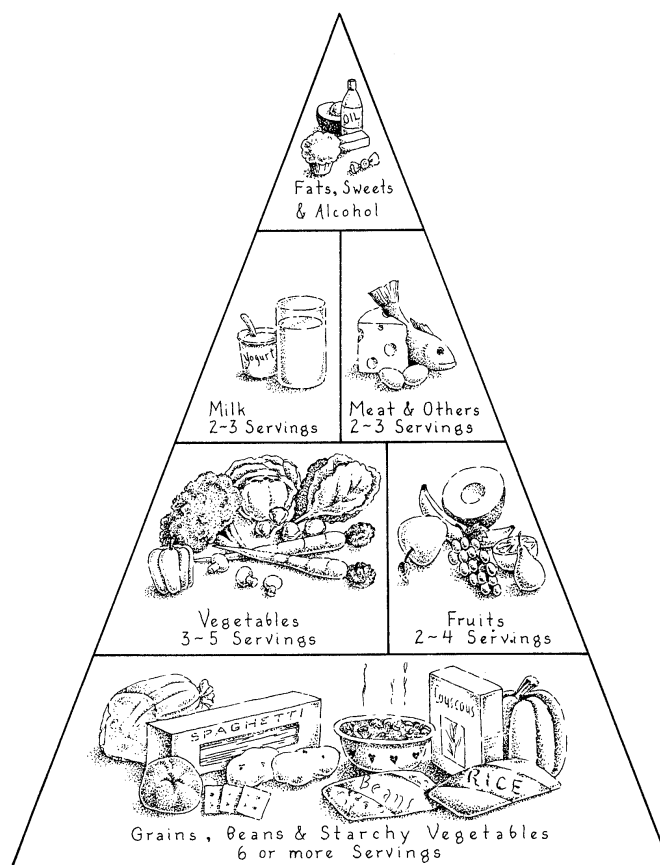
- You can make a difference in your blood sugar control through your food choices.
- You do not need special or diet foods.
- The food that is good for you is good for your whole family.

Here's how you do it:

- Eat a wide variety of foods every day. Try new foods.
- Eat high-fiber foods such as fruits, vegetables, grains and beans.
- Use less added fat, sugar and salt.

Changes you can make:

- Eat meals and snacks at regular times every day.
- Eat about the same amount of food each day.
- Try not to skip meals.
- If you want to lose weight, cut down on your portion size.
If you skip a meal, you may eat too much at your next meal.



healthy eating is the first step in taking care of your diabetes

Fats <ul style="list-style-type: none"> • Eat less fat. • Eat less saturated fat. It is found in meat and animal products such as hamburger, cheese, bacon and butter. • Saturated fat is usually solid at room temperature. 	Sweets <ul style="list-style-type: none"> • Choose sweets less often because they are high in fat and sugar. • When you do eat sweets, make them part of your healthy diet. Don't eat them as extras.
Milk <ul style="list-style-type: none"> • Choose low-fat or nonfat milk or yogurt. • Yogurt has natural sugar in it. It can also have added sugar or artificial sweeteners. Yogurt with artificial sweeteners has fewer calories than yogurt with added sugar. 	Meat and Others <ul style="list-style-type: none"> • Choose fish and poultry more often. Remove the skin from chicken and turkey. • Select lean cuts of beef, veal, pork, or wild game. • Trim all visible fat from meat. • Bake, roast, broil, grill or boil instead of frying or adding fat.
Vegetables <ul style="list-style-type: none"> • Choose fresh or frozen vegetables without added sauces, fats or salt. • Choose more dark green and deep yellow vegetables, such as spinach, broccoli, romaine, carrots, chilies and peppers. 	Fruits <ul style="list-style-type: none"> • Choose whole fruits more often than juices. They have more fiber. • Choose fruits and fruit juices without added sweeteners or syrups. • Choose citrus fruit such as oranges, grapefruit or tangerines.
Grains/Beans/Starchy Vegetables <ul style="list-style-type: none"> • Choose whole-grain foods such as whole-grain bread or crackers, tortillas, bran cereal, brown rice or bulgur. They're nutritious and high in fiber. • Choose beans as a good source of fiber. • Use whole-wheat or other whole-grain flours in cooking and baking. • Eat more low-fat breads such as bagels, tortillas, English muffins, and pita bread. • For snacks, try pretzels or low-fat crackers. 	
Alcohol <ul style="list-style-type: none"> • If you choose to drink alcohol, limit the amount and have it with a meal. • Check with your health professional about a safe amount for you. 	

how much food should I eat?

Fruit

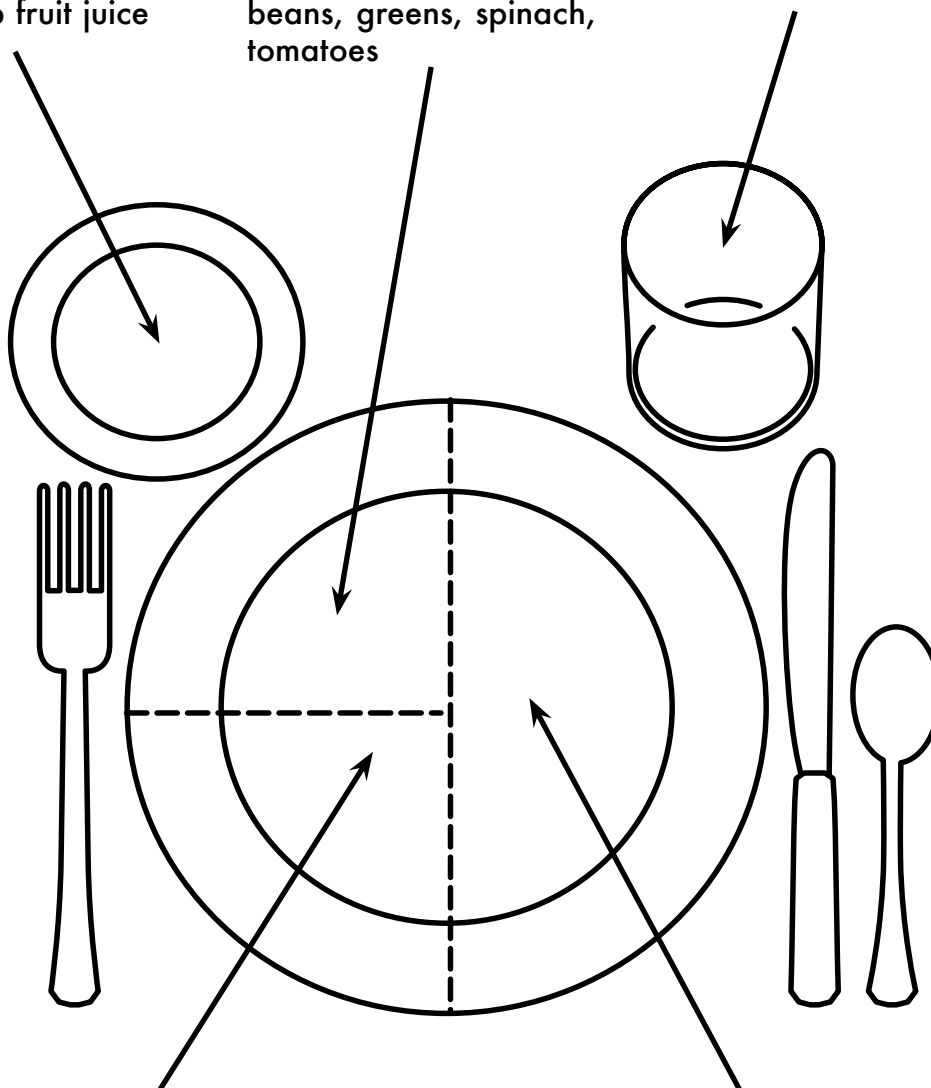
1 piece of fresh fruit,
1/2 cup canned fruit,
1/2 cup fruit juice

At least 1/4 plate of vegetables

Broccoli, carrots, green beans, greens, spinach, tomatoes

Milk or yogurt

Skim milk or 1% milk,
1 cup plain or light yogurt



1/4 plate or less of meat or other protein

Chicken, fish, lean beef,
lean pork, egg, tofu,
cottage cheese, beans

1/2 plate of starchy foods

Noodles or pasta, 1 cup bread,
1 cup whole rice, 1 cup corn,
1 cup potatoes, 2 small tortillas,
1 cup cereal

Free foods

Pepper, mustard, coffee, tea, diet soda, artificial sweetner

guidelines for use of alcoholic drinks

- Discuss your use of alcohol with your health care team. Consider drinking only if your diabetes is well-controlled and you are not pregnant. Alcohol can make some problems worse.
- Alcohol initially lowers your blood sugar level. If you use insulin or certain diabetes medications, you are more likely to have a low blood sugar reaction when you drink alcohol.
- Drink alcohol with meals or snacks containing carbohydrates, such as pretzels, bread sticks, or crackers.
- Alcohol makes insulin reactions harder to recognize. It also interferes with some medicines.
- Use alcohol in moderation (up to 1 equivalent for women and 2 equivalents for men per day).

Equivalent = 1 1/2 oz distilled spirits
 4 oz dry wine
 12 oz beer

- Mix alcohol with:

Free

- water
- club soda*
- seltzer*
- diet soft drinks*

Fruit/Vegetable Exchange

- fruit juice (1 fruit)
- tomato juice (4 oz = 1 vegetable)
- V8 juice (4 oz = 1 vegetable)

- Avoid sweet wine, liqueurs, and sweetened mixed drinks. Try a wine spritzer made with club soda rather than a wine cooler, which is usually made with sweetened, fruit-flavored mix.
- Drink with someone who recognizes and knows how to treat a low blood sugar reaction.
- Note the differences in calories and carbohydrates among alcoholic drinks.

* Carbonation makes alcohol enter the bloodstream more quickly.

eating away from home

Important Tips:

- Know what is important to you about eating out.
- Know your goals and your meal plan.
- Choose the kinds and amounts of food that best fit into your meal plan.
- Plan ahead—call the restaurant or hostess if unsure of the menu.
- Consider using the plate method as a guideline.

Eating in Restaurants

Choose:

- **Appetizers**
Broth or bouillon, unsweetened fruit or vegetable juice, fresh fruit or raw vegetables.
- **Salads**
Tossed vegetable or fresh fruit salads served with limited dressing.
- **Main Course**
Any main dish item that does not contain large amounts of gravy, cream sauce, breading, or fat, and does contain ingredients that can be easily identified.
- **Vegetables**
Stewed, steamed, or boiled.
- **Starches**
Baked potatoes, plain noodles, rice, hard rolls, melba toast, bread sticks, or other plain breads.
- **Desserts**
Fresh fruits or artificially sweetened Jello
- **Drinks**
Water, unsweetened coffee or tea, fat-free (skim) milk, juices, diet soft drinks, soda or sparkling waters.

eating away from home

Request:

- Salad dressings, butter, sour cream, gravies, or sauces to be served on the side so you can control how much you use.
- Vegetables and main dishes to be served plain, without butter, margarine, or sauces.
- Tomato or other vegetable juices, usually available if the restaurant has a bar or serves breakfast.
- Low-calorie salad dressing and artificially sweetened Jello, if available.
- Fresh fruit and fat-free (skim) milk, usually available even though it's not listed on the menu.

Choose less often:

- Cream soups.
- Salads with dressing already added, such as potato salad or cole slaw.
- Foods that are breaded, deep-fat fried, creamed, or scalloped.
- Casseroles or mixed dishes, unless you can easily identify the types and amounts of ingredients.
- Sweet desserts, pastries, sweetened fruits or juices, and regular gelatin desserts or salad.



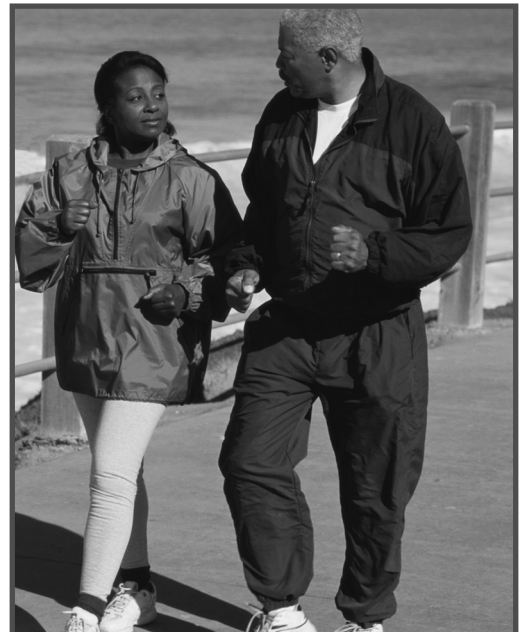
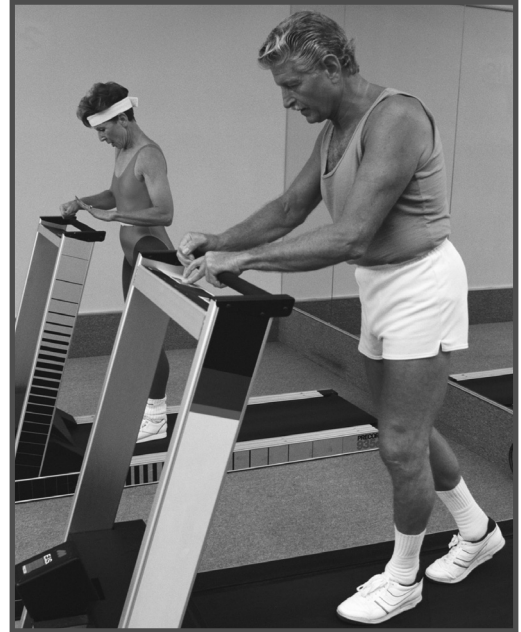
money-saving shopping tips

1. Shop only with a list.
2. Shop only once or twice a week. You'll spend more if you go more often.
3. Buy only items you really need, unless something you use often is on sale. If something you use often is on sale and can be stored, consider buying enough for a few weeks.
4. Check grocery ads for sale items and the Sunday newspaper inserts for coupons.
5. Compare discounted items with similar products at regular price to see if you really are saving.
6. Eat before you go shopping.
7. Check unit pricing (the price per ounce or pound, usually listed on the shelf below the item). This helps you compare sizes and brands, to decide which is the least expensive.
8. Look for store brands or generic brands—they are often cheaper than national brands.
9. Prepared foods cost more than the plain ingredients from which they are made.
10. Plain cereal costs less per ounce than sugar-coated cereal.
11. Fat-free (skim) milk is less expensive than reduced-fat (2%) or whole milk.
12. Buy only the amount you will use. An item that costs less per serving will not save money if it spoils.
13. Whole, unwashed produce usually costs less than washed and cut up items.
14. Buying salad makings at the store salad bar might be less expensive than buying all the various items separately—especially for one or two people.
15. Soups, stews and casseroles stretch a little meat to serve more people.
16. Buy plain ice cream instead of premium ice cream or sherbet.
17. Limit use of pickles, relishes and olives. They are high in cost but low in nutrients.
18. Limit use of chips, cookies and other snack foods. They are high in calories and cost, but low in nutrients.

class notes

[illegible]

be active every day



why be active?



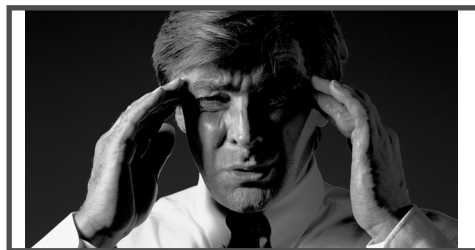
To control weight



To build strong muscles and bones



To lower your blood pressure



To cut down on stress



Helps you look and feel better



To prevent heart disease



To help you sleep better



To lower your blood sugar

before physical activity



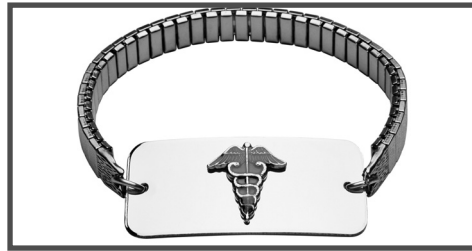
Check with your doctor



Check your blood sugar



Carry a source of
carbohydrates with you



Wear your medic
alert jewelry



Drink water



Warm up 5-10 minutes

be safe



Exercise after a meal.



Exercise at the same time every day.



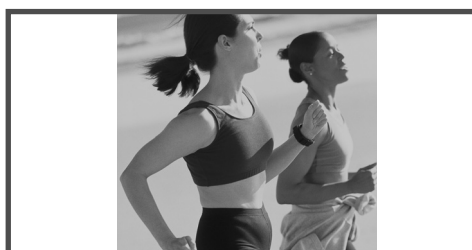
**Check your blood sugar.
If 100mg or less, eat a
snack, before exercising.**



**Appropriate snack:
15mg carbohydrate,
1/2 sandwich, fruit juice
before exercising**



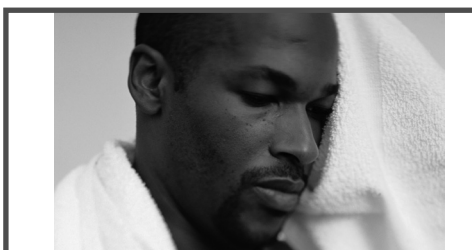
Carry a snack with you.



Exercise with a friend.



**Check your blood sugar
after you exercise.**



**Cool down for
5-10 minutes.**

be safe

STOP exercising if you:

- Have pain or pressure in your chest.
- Feel faint or dizzy.
- Become short of breath.
- have low blood sugar with or after exercising.

Call your doctor if you have any of these symptoms.



good ways to exercise

The purpose of exercise is to make you feel better. Overexertion is only hurting yourself. Listen to your body and its warning signs.

Regular physical activity is recommended daily.

Each individual must start slow and build up. The best recommended activities are moderate-intensity physical activities

- Being able to talk while you are active, but probably not being able to sing a song.
- The effort a healthy individual might expend while walking briskly, mowing the lawn, dancing, swimming, or bicycling on level terrain, for example.

Hard physical activity is

- Being winded or too out of breath to carry on a conversation while you are active.
- The effort a healthy individual might expend while jogging, mowing the lawn with a non-motorized pushmower, chopping wood, participating in high impact aerobic dancing, swimming continuous laps, or bicycling uphill, for example.

How do I know if I am exercising too hard?

Signs and symptoms of overexertion

1. Shortness of breath
2. Nausea or vomiting
3. Excessive fatigue
4. Pain
5. Faint or disoriented

How do I know if I am exercising hard enough

1. Rate the difficulty (light, moderate, hard)
2. Use the talk test

ways to get moving

1. Get up to change TV channels, instead of using the remote.
2. Iron while watching TV.
3. Walk around your house during TV commercials.
4. Do some housework during commercials, such as washing dishes, loading the washing machine or dryer, loading or unloading the dishwasher.
5. Vacuum your floors.
6. Sweep or mop your floors.
7. Sweep your sidewalk.
8. Wash and wax your car.
9. Rake your yard instead of using a leaf blower.
10. Push mow your yard instead of using a riding lawn mower.
11. Plant and care for a garden.
12. Take your pet for a walk.
13. Shovel snow instead of using a snow blower.
14. Push your baby in a stroller.
15. Play with your children or grandchildren.
16. Take the stairs.
17. Park your car farther away from the store.
18. Take a walk with someone you want to talk to.
19. Stand or walk around while you talk on the phone.
20. Walk during lunch, break, while the oven is pre-heating or while waiting for your medicine to be filled at the drug store.
21. Do errands that require walking, such as grocery shopping.

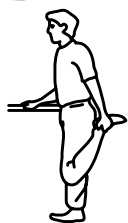
warm up - cool down

Stretching Rules

- Go slowly and smoothly.
- Remember to breathe.
- Don't bounce.
- Relax any tension you feel.
- Go only as far as you can without pain.
- Hold for at least 8-10 seconds.



Calf stretch. Face a wall, about a foot away. Stand with one foot in front of the other, toes straight ahead. Keep both feet flat on the floor. Bend your front knee. Slowly lean forward and rest your forearms on the wall. Press your rear heel into the floor. Repeat with your other leg.



Quadriceps (front of thigh) stretch. Stand with legs straight or slightly bent. Bend one leg back, lifting your foot off the floor. Grab the ankle of the bent leg with one hand. You may want to hold on to something for balance. Gently pull your foot up so your heel is headed for your bottom and hold. Release. Repeat with your other leg.



Back and hips stretch. Sit with one leg straight out. Bend your other leg. Cross your bent leg over your straight leg, placing the foot of your bent leg on the floor next to the knee of the straight leg. Breathe. Slowly twist your upper body in the direction of your straight leg. Keep turning your head to look behind you. Keep your shoulders relaxed and your chin level. Brace yourself by placing the elbow of the arm nearest your bent knee on the inside of your bent knee. Slowly unwind and rest both legs on the floor. Repeat on the other side.



Shoulders and chest stretch. Lace your fingers together behind you. Hold your arms up. Hold. Breathe. Slowly lower and let go.



Arms stretch. Raise your arms over your head. Lace your fingers together with palms up. Press your arms upward.



Neck stretch. Center your head over your shoulders. Look down. Let your head roll toward your chest. Bring your head back to the center. Look up. Point your chin at the ceiling. Bring your head back to the center. Look over one shoulder. Bring your head back to the center. Look over the other shoulder. Repeat slowly.

planning your exercise program

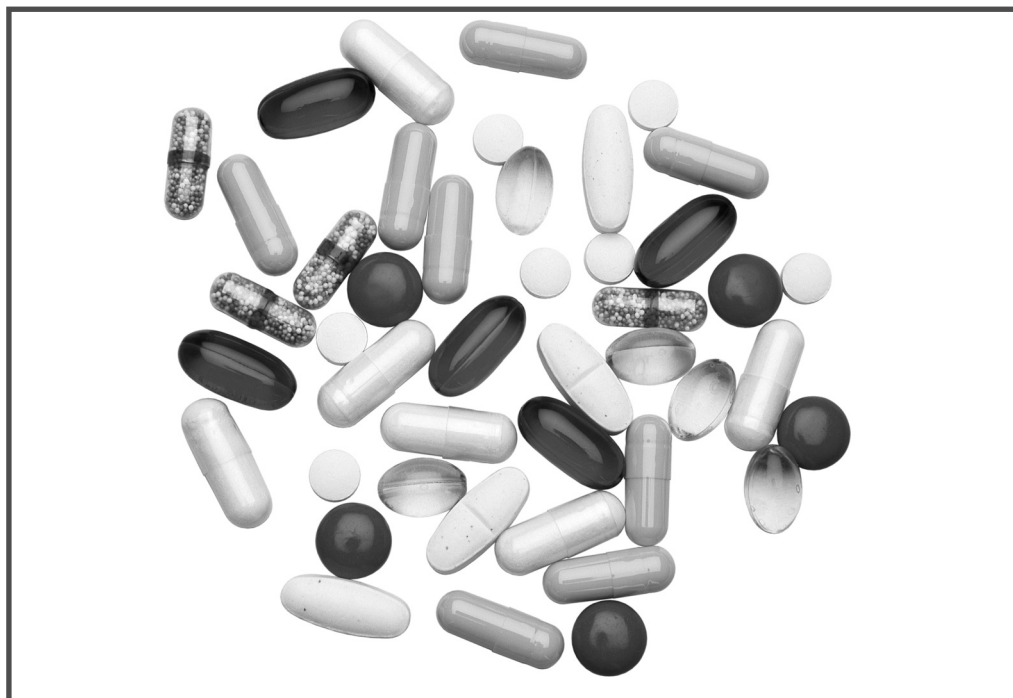
Write down answers to the following questions:

1. What exercise programs or activities are safe and practical for you to do regularly?
2. Of these, which activities would you enjoy doing?
3. Are there any activities you plan to do?
4. Where will you do these activities?
5. What time of day will you do your program?
6. How often will you exercise?
7. How long will you exercise each time?
8. What will you do to reduce your risk for hypoglycemia?
9. What stretching, aerobic, and weight-bearing activities will you do?
10. What is your goal for how often you will exercise once your exercise program is established?
11. How will you keep track of your exercise?
12. How will you reward yourself for your exercise program?

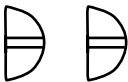




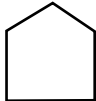


class notes

[illegible]

medications - pills and shots



diabetes pills

Name	Color	Shape	Dosage (mg)	Number of times per day
Diabinese® (Chlorpropamide)	blue		100 250	1
Tolinase® (tolazamide)	white		100 250 500	1 - 2
Glucophage® (glyburide)	white		500 800	2 - 3
†Precose® (gacarbose)	white		25 50 100	3
†Glyset® (miglitol)	white		5.0 10.0	1
Avandia® (rosiglitazone)	orange pink reddish-brown		2 4 8	1 - 2
Actos® (pioglitazone)	white		15 30 45	1
**Prandin® (repaglinde)	white yellow pink		.5 1 2	3 - 4




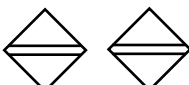
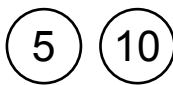


Generic diabetes pills may not look the same as these drawings.

† Take with the first bite of each meal.

** Take 15 minutes before each meal.

diabetes pills

(continued)

Name	Color	Shape	Dosage (mg)	Number of times per day
Micronase® (glyburide)	white		1.25	1 - 2
	pink		2.5	
	blue		5.0	
Diabeta® (glyburide)	white		1.25	1 - 2
	pink		2.5	
	green		5.0	
Glynase- PresTab® (glyburide)	white		1.5	1 - 2
	blue		3.0	
	yellow		6.0	
* Glucotrol® (glipizide)	white		5.0	1 - 2
			10.0	
Glucotrol XL®	white		5.0	1
			10.0	
Amaryl (glimepiride)	white		1.0	1
	pink		2.0	
	green		4.0	
Orinase® (tolbutamide)	white		250	2 - 3
			500	

* Take 30 minutes before each meal.

sulfonylureas

This pill helps your body make more insulin and keeps your liver from making extra sugar. This pill, along with diet and exercise, will lower sugar levels in individuals with type 2 diabetes.

WARNING:

People with heart disease, liver or kidney problems should not take first generation sulfonylureas (see chart below). In addition, people with the following should not take sulfonylureas: Type 1 diabetes, major surgery, severe trauma or stress, or a history of problems with Sulfa drugs.

SIDE EFFECTS:

Weight gain, constipation, diarrhea, nausea, heartburn, changes in appetite, stomach discomfort, dizziness, drowsiness and headache. Notify a doctor if you get low blood sugar, high blood sugar, fever, rash, unusual bruising or bleeding, or sore throat.

Duration of Action: Up to 24 hours

COMMENTS:

- Take 30 minutes before meals.
- May take with food if stomach upset.
- Eat 3 meals daily and a bedtime snack. Eat at the same time daily and do not skip meals.
- Discuss with a doctor as to whether you can drink alcohol.
- May increase sun sensitivity. Wear sunscreen, sunglasses and a hat outside.
- Do not take other medications without your doctor's okay.
- Avoid during pregnancy or breastfeeding.

DURATION & DOSAGE:

Sulfonylureas (1st generation)

	Dosage
Chlorpropamide (Diabinese)	100-500 mg
Tolbutamide (Orinase)	500-3000 mg
Tolazamide (Tolinase)	100-1000 mg

Sulfonylureas (2nd generation)

	Dosage
Glipizide (Glucotrol)	5-40 mg
Glipizide extended releases (Glucotrol XL)	5-20 mg
Glyburide (Diabeta)	25-20 mg
Glyburide (Micronase)	2.5-20 mg
Glyburide (Glynase PresTab)	1.5-12 mg

Sulfonylureas (3rd generation)

	Dosage
Glimepiride (Amaryll)	1-8 mg

glucophage (metformin)

This pill limits the amount of glucose made by your liver as well as helping the insulin that moves through your body. It will take at least 1-2 days for this medicine to reach the correct levels in your blood stream. This pill taken by itself will not cause low blood sugar.

WARNING:

Your doctor will need to know how well your liver and kidneys are working before and after you start this pill, so you will need regular blood work done.

Check with your doctor if you are:

- Taking a heart pill (procardia/nifedipine)
- Taking a water pill (lasix/furosemide)
- Taking a stomach pill (tagamet/cimetidine)

Let everyone on your health team know you are on this pill before you have x-rays in which dye is used or major surgery

SIDE EFFECTS:

Nausea, vomiting, loose stools, gas or "sick stomach."

COMMENTS:

- Eat 3 meals daily and a bedtime snack. Eat same time daily and do not skip meals.
- Discuss with a doctor whether you can drink alcohol.
- Do not take other medications without your doctor's okay.
- Avoid during pregnancy or breastfeeding.

prandin (repaglinide)

This pill helps your body make insulin right after meals, which lowers blood sugar. Your doctor may give this pill with metformin (glucophage) or alone.

WARNING:

Do not take this medicine if you are pregnant or breastfeeding.

SIDE EFFECTS:

- Numbness and tingling in the arms or hands
- Dizziness
- Weight gain
- Low blood sugar reaction
- Headache

Duration of Action: 1-2 hours

COMMENTS:

Check blood sugar closely and regularly. Do not take if you are going to skip a meal. This pill can cause low blood sugar.

Take 30 minutes before meals

Take this pill within 15-30 minutes of the meal. If you add a meal, you will need to add a dose of this medication.

glyset (miglitol)

This pill causes the food you eat to change into glucose more slowly, so that levels are lower after a meal. Take this pill with the first bite of food. This pill taken by itself will not cause low blood sugar.

WARNING:

- Tell your doctor if you have kidney problems.
- You will need to have blood test to check liver function, serum, calcium levels and vitamin B6 levels.
- Do not take this medication if you are pregnant or breastfeeding.

SIDE EFFECTS:

Gas, stomach pain, diarrhea. Side effects usually occur during the first few weeks of therapy and get better over time.

Duration of Action: 8 hours

COMMENTS:

- This pill has a good effect on weight. Many people lose weight.
- May cause low blood sugar when used with insulin or sulfonyureas.
- If low blood sugar reaction occurs, you need to use glucose tablets or gel, IV dextrose, or glucagon injection to treat symptoms. Table sugar and juice will not work.

avandia (rosiglitazone)

Avandia can be given alone or in combination with Metformin to treat Type 2 diabetes, and it will begin to work within two weeks and may take up to 12 weeks to see the full effect. Avandia helps your body use insulin by making the cells more sensitive to insulin so that sugar can enter the cell.

WARNING:

- Individuals with history of edema, liver problems or congestive heart failure, or if you are nursing, pregnant or thinking of becoming pregnant need to discuss this with a doctor before taking this medication.
- Avandia therapy may result in resumption of ovulation in premenopausal women who are not ovulating, which may increase your chances of becoming pregnant.

SIDE EFFECTS:

- Weight gain
- Edema
- Anemia
- Patients should undergo liver function test every two months for one year and periodically thereafter.
- Report immediately to the doctor if you have nausea, vomiting, abdominal pain, fatigue, loss of appetite, or dark urine.

Duration of Action: Up to 24 hours

COMMENTS:

Tell your doctor if you are taking prescription or over the counter products for your diabetes or for conditions other than diabetes.

actos (pioglitazone hcl)

This medication is used to treat insulin resistance in Type 2 diabetes along with diet and exercise. May be used alone or with metformin, sulfonulureas or insulin. Take it with or without food one time a day.

WARNING:

- If you are taking other diabetic medication, this medication could cause hypoglycemia.
- If you are taking birth control pills, this medication may decrease effectiveness of the birth control pill. This pill could increase chance of pregnancy by causing ovulation to resume in premenopausal women who have not been ovulating.
- Do not use if pregnant or breastfeeding or if you have congestive heart failure, Type 1 diabetes, diabetic ketoacidosis, or liver disease. Your doctor should do a blood test to check your liver function before you start Actos and regularly thereafter.

SIDE EFFECTS:

- Sore throat
- Contact doctor immediately if you have bloating or swelling of ankles, feet or hands, chest pain, rapid weight gain, shortness of breath, fatigue, unexplained nausea or vomiting, dark urine or yellowing of the skin or eyes.

glucovance

This pill is a combination of metformin and glyburide. It is used to treat Type 2 diabetes.

WARNING:

- Glucovance may cause hypoglycemia.
- Do not take if you have kidney problems, or if you are 80 or older (unless you have kidneys tested first), if you are taking medication for congestive heart failure, if you have liver disease, or if you drink alcohol excessively.
- Metformin can cause lactic acidosis which can be life threatening.
- Stop medication if you experience unusual tiredness, weakness, stomach discomfort, muscle pain, breathing trouble, feeling cold, dizzy or light headed, slow or irregular heart rate.

SIDE EFFECTS:

- May cause increased sensitivity to sun.
- These side effects could go away during treatment: metallic taste, nausea, vomiting, diarrhea, loss of appetite, indigestion.

COMMENTS:

Avoid taking during pregnancy or breastfeeding. Avoid if you have history of sulfa allergy.

starlix (nateglinide)

This pill helps your body make more insulin right after meals, which lowers blood sugar. This medication can be used alone or with Metformin (glucophage).

WARNING:

- Should not be used in people taking sulfonyureas.
- You may have higher blood levels of this medication if you have liver problems.
- Do not take this medication if you are pregnant or breastfeeding.

SIDE EFFECTS:

- Weight gain
- Low blood sugar reaction

Duration of Action: 1 - 2 hours

COMMENTS:

- Check blood sugar frequently
- Do not take if you skip a meal
- Take within 30 minutes of a meal

precose (acarbose)

This pill causes the food you eat to change into sugar more slowly so that blood sugar levels are lower after a meal. It will take at least 1 day for this pill to begin working in your blood stream. This pill taken by itself will not cause low blood sugar.

SIDE EFFECTS:

- Precose may cause gas and stomach pain. This may happen when you first start taking it. Because of this, your doctor may tell you to take Precose a certain way. No matter how you were told to take this pill, always remember that you must take it with the first bite of the meal.

WARNINGS:

- Check with your doctor if you are taking a stomach pill with enzymes because this may reduce the effects of precose.

COMMENTS:

- Drink plenty of water, eat slowly and chew food well.
- These are some foods that cause gas and you should avoid:
Beans, bran cereal, nuts, broccoli, cabbage, beer and sodas.

insulin

Insulin is a hormone made by the pancreas. This hormone helps glucose get into your body's cells and the glucose can then be used for energy. Because insulin is destroyed in the stomach, it must be given as a shot instead of a pill.

Insulin is required in Type 1 and some Type 2 diabetes, and in gestational diabetes.

INSULIN TYPES:

- Animal
- Human

INSULIN ACTION:

Insulin action has three parts:

- 1 Onset - when insulin starts to work
- 2 Peak - when insulin is working the hardest
- 3 Duration - how long insulin works

Knowing the type of insulin you are on will tell you how fast and long it will work:

H = Humalog or Novalog (lispro) insulin

R = Regular insulin

N = NPH insulin

L = Lente insulin

U = Ultralente

Premixed = 70/30 and 50/50

Lantus®

INSULIN STORAGE:

- Unopened bottles of insulin should be stored in the refrigerator and are good until the expiration date on the box and/or the bottle.
- Insulin can be stored at room temperature (59-86 F) for about one month. The strength of the insulin is altered after that.
- Bottles used more than 28-30 days must be kept refrigerated (36-46 F).
- Insulin should never be frozen.
- Keep insulin bottles away from direct sunlight or heat and in a cool, dry place.
- Avoid exposing the bottles to temperature extremes (less than 36° or more than 86 F°.)

insulin

(continued)

Check your insulin before you use it:

- Regular insulin should be clear and have no odor. Do not use regular insulin if it looks cloudy, thickened, slightly colored, or if it has any solid clumps or particles in it.
- All other insulin should be cloudy and have an even appearance after gentle mixing.
- Do not use insulin if insulin stays in the bottom of the bottle after mixing.
- Do not use insulin if the bottle looks frosted on the inside.

Can two insulins be mixed?:

- Humalog and any slow acting insulin (NPH, Lente, Ultralente) can be mixed. Inject within 5 minutes of mixing.
- Regular and NPH - inject within 5 minutes after mixing.
- Regular and Lente - inject within 5 minutes after mixing. It is best not to mix and store for later use.
- Regular and Ultralente - inject within 5 minutes after mixing or inject the Regular and Ultralente in two different injections. Be consistent with your choice.
- Lantus insulin can NOT be mixed.

Prefilling syringes:

Rules for prefilling syringes differ from mixing insulin for immediate injection. People who cannot draw up their insulin can have someone prefill their syringes.

- Store prefilled syringe needle pointing up in the refrigerator.
- Regular and NPH are good for 14 days in the refrigerator.
- Humalog loses its potency and acts like Regular insulin when premixed. Talk with your doctor about switching to Regular if syringes need to be prefilled.
- Once the mixture has been drawn up, it should be left for at least 24 hours. This allows for the mixture to stabilize. Do not use a mixture that has just been drawn up because the action of the insulin will be different.
- Roll pre-filled syringes between the hands before administration to remix the solution.

How to make the injection more comfortable:

- Let insulin come to room temperature before injecting.
- Make sure there are no air bubbles in the syringe before you inject the insulin.
- Wait until alcohol dries on your skin.
- Relax your muscles in the area.
- Puncture the skin quickly.
- Keep the needle going in the same direction when going in and coming out.
- Do not wipe needle with alcohol. This removes the slick coating on the needle that helps the needle go in easily.

insulin

(continued)

How to dispose of syringes:

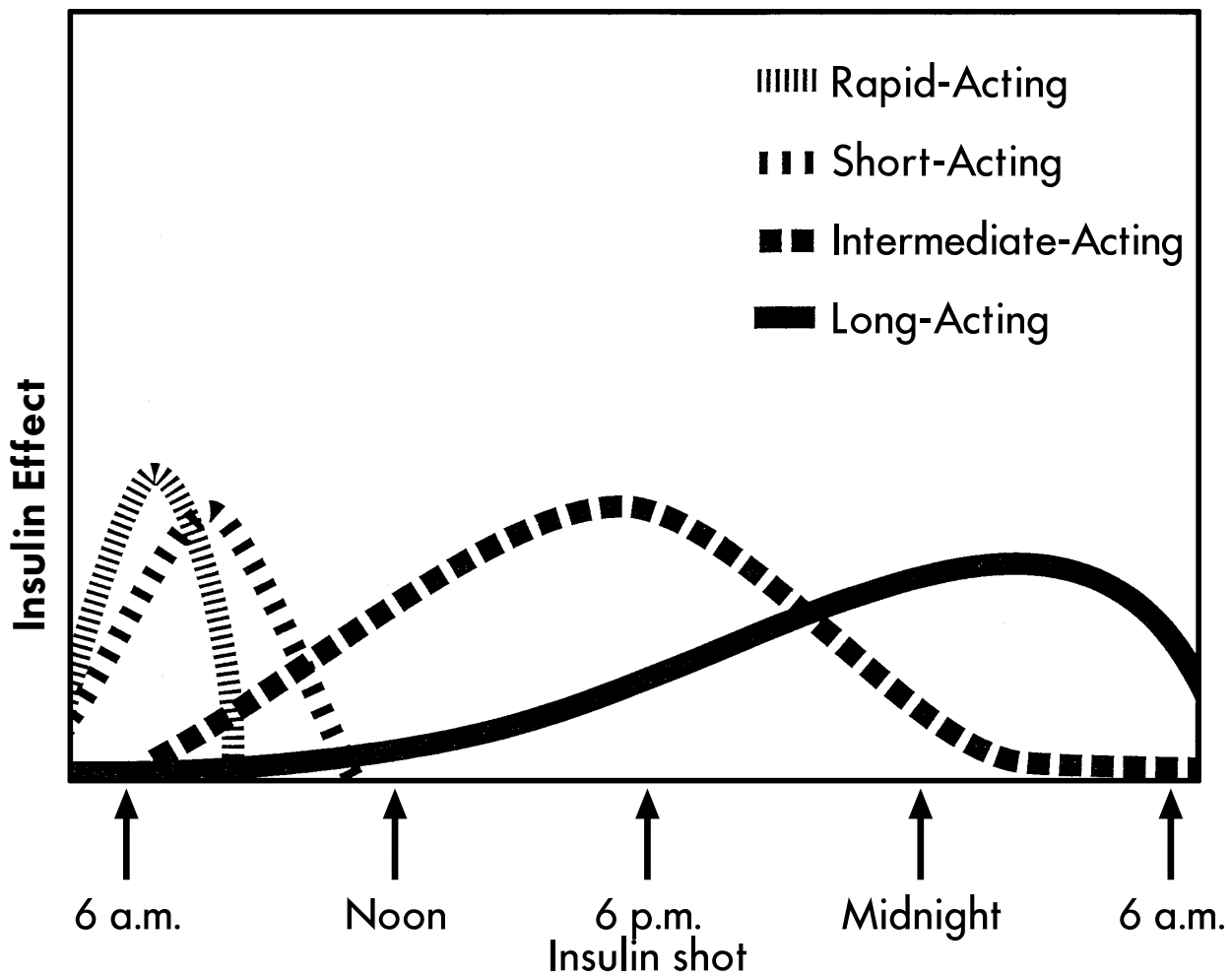
- Place them in a puncture proof container of heavy duty plastic (clorox bottle) or metal container with a screw cap or other lid that can be sealed shut before placing in the garbage.
- Label the container with a "Bio Hazard" label.
- Put the container in your regular garbage pick up. Be sure to seal container well.

Type	Source(s)	Color	Approximate Length of Action (Hours)		
			Onset	Peak	End
Rapid acting <i>Lispro</i>	<i>human</i>	<i>clear</i>	<i>5 min</i>	<i>1</i>	<i>2-4</i>
Short acting <i>Regular</i>	<i>human</i>	<i>clear</i>	<i>1/2-1 hr</i>	<i>2-5</i>	<i>6-16</i>
Intermediate acting <i>NPH</i>	<i>human</i> <i>pork</i>	<i>milky white</i>	<i>1-1 1/2 hr</i>	<i>4-12</i>	<i>24+</i>
<i>Lente</i>	<i>human</i> <i>pork</i>	<i>milky white</i>	<i>1-2 1/2 hr</i>	<i>6-15</i>	<i>22+</i>
Long acting <i>Ultralente</i>	<i>human</i>	<i>milky white</i>	<i>4-6 hr</i>	<i>8-30</i>	<i>24-36+</i>
Mixtures <i>NPH 70: R 30</i>	<i>human</i>	<i>milky white</i>	<i>1/2 hr</i>	<i>2-12</i>	<i>24</i>
<i>NPH 50: R 50</i>	<i>human</i>	<i>milky white</i>	<i>1/2 hr</i>	<i>1-6</i>	<i>14+</i>
<i>NPH 75: RL 25</i>	<i>human</i>	<i>milky white</i>	<i>1/4 hr</i>	<i>1/2-4</i>	<i>24</i>
<i>Lantus</i>	<i>human</i>	<i>clear</i>		<i>none</i>	<i>24</i>

insulin

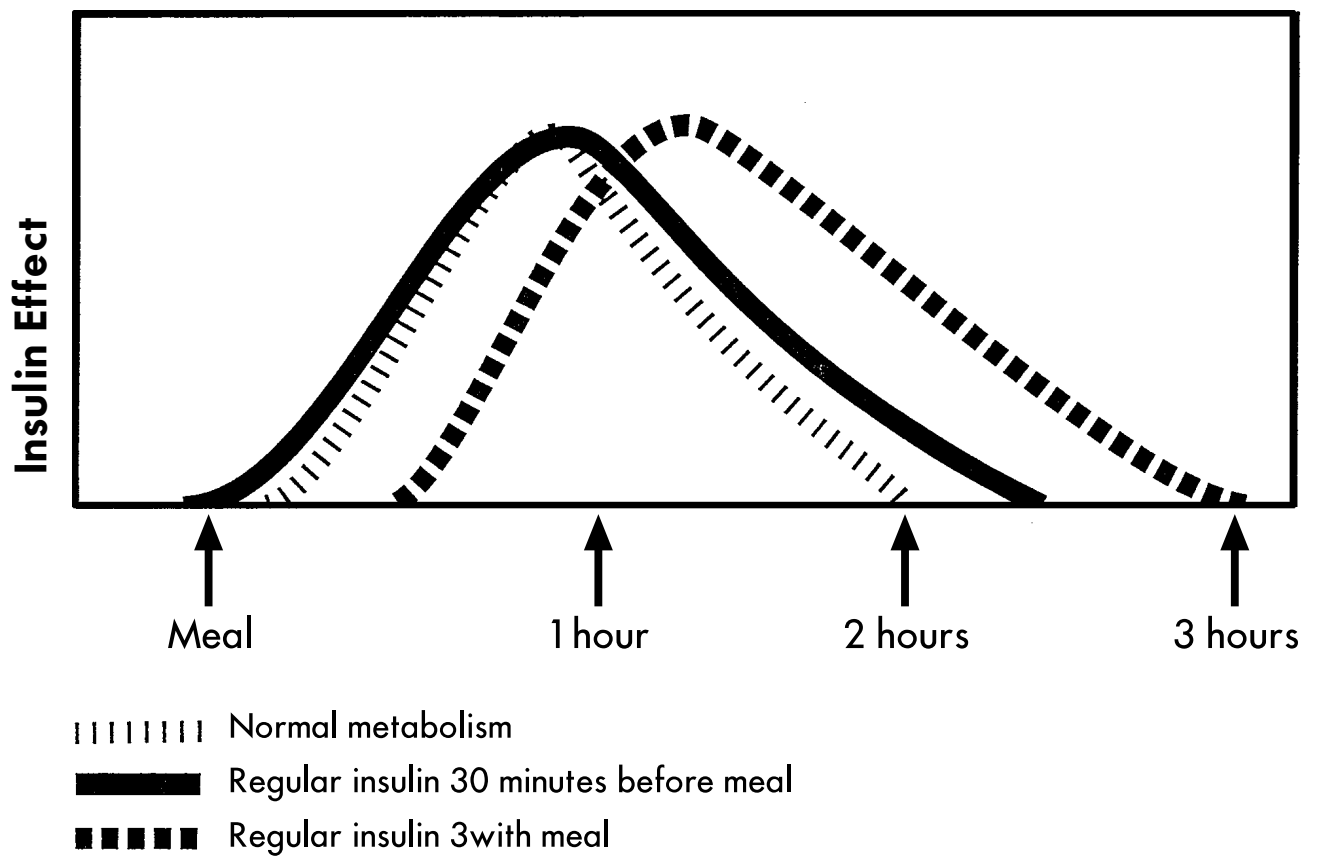
(continued)

Insulin Action Times



insulin (continued)

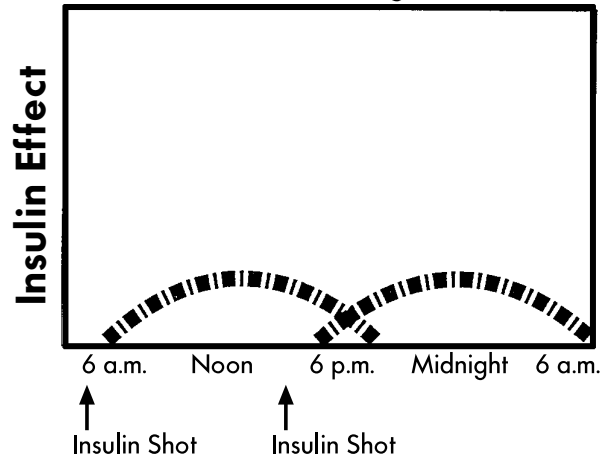
Timing of Insulin and Meals



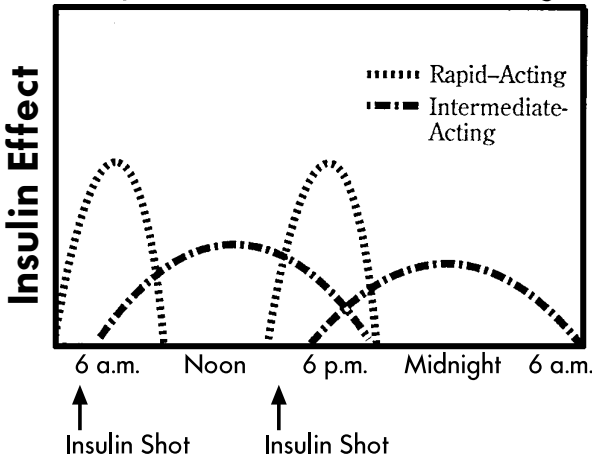
insulin
(continued)

Insulin Programs

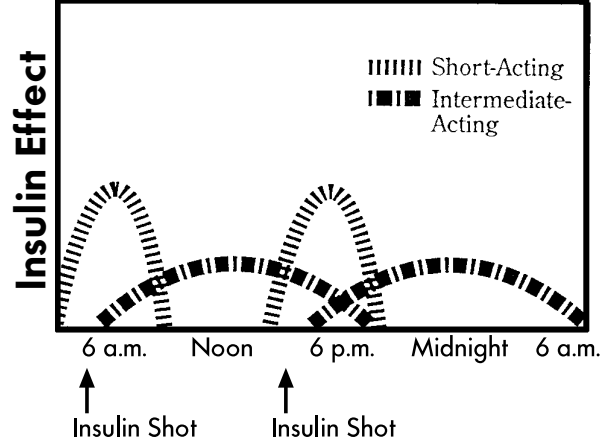
Intermediate Acting (2 doses)



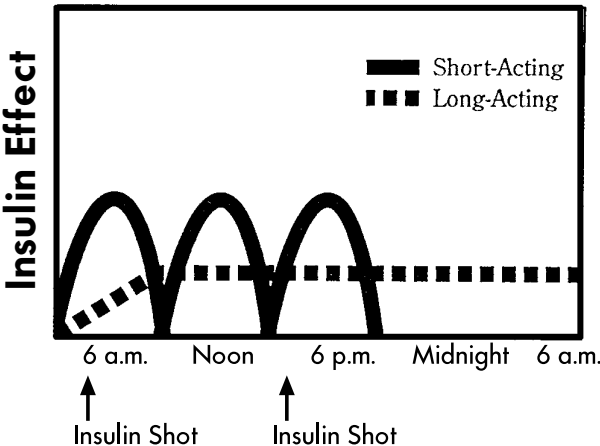
Rapid and Intermediate Acting



Short and Intermediate Acting



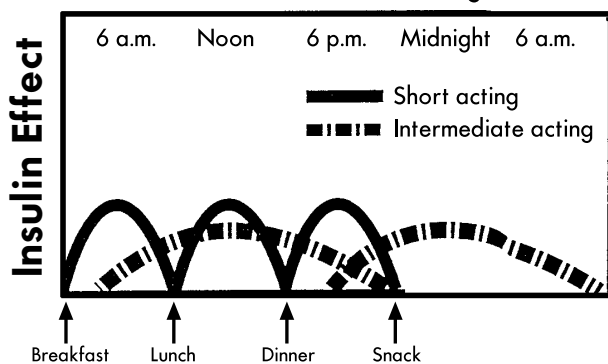
Short, and Long Acting



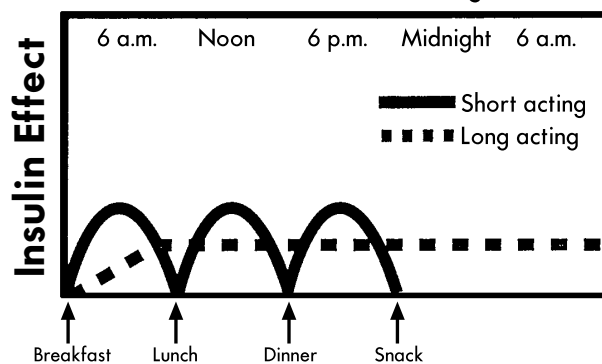
insulin (continued)

Insulin Programs

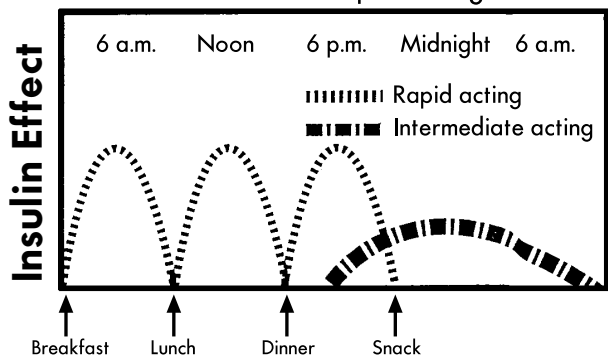
2 doses of Intermediate-Acting and
3 doses of Short-Acting



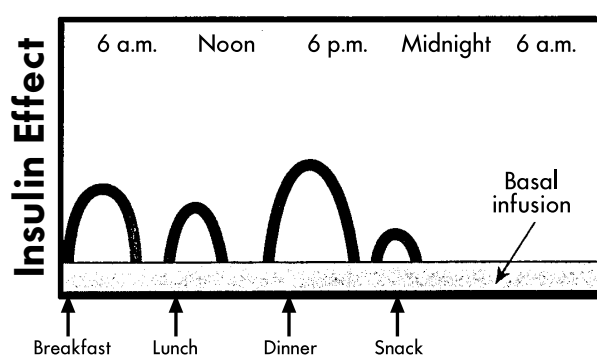
1 or 2 doses of Long-Acting and
3 doses of Short-Acting



Bedtime Intermediate-Acting and
3 doses of Rapid-Acting



Continuous Subcutaneous
Insulin Infusion

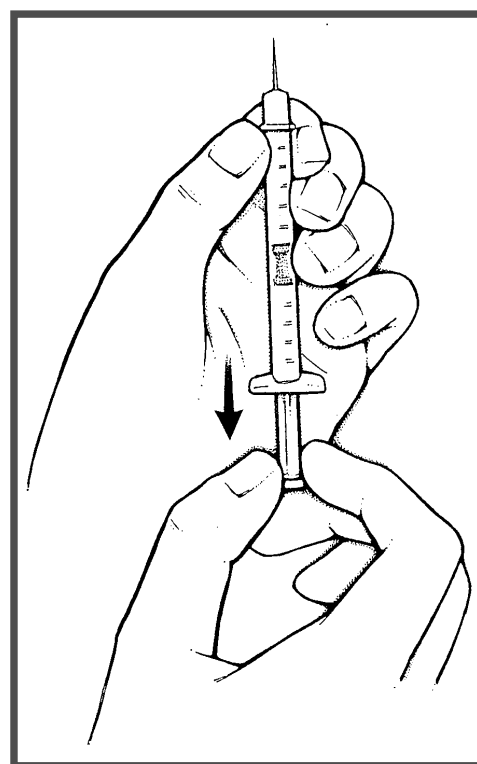
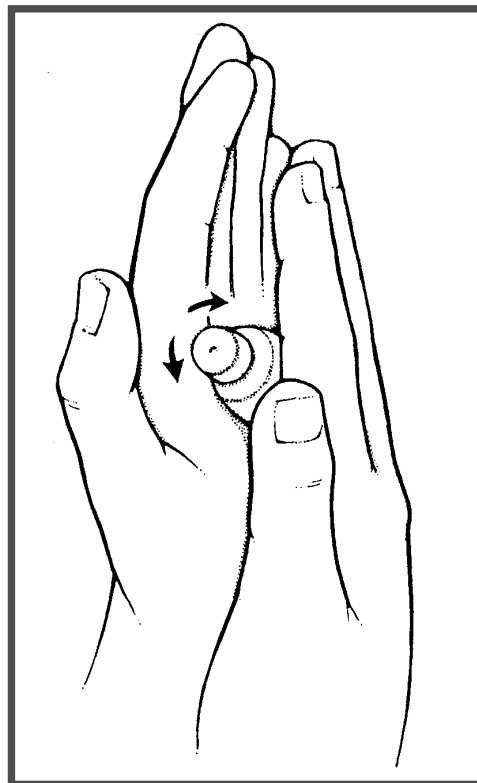


giving an insulin injection

One kind of insulin:

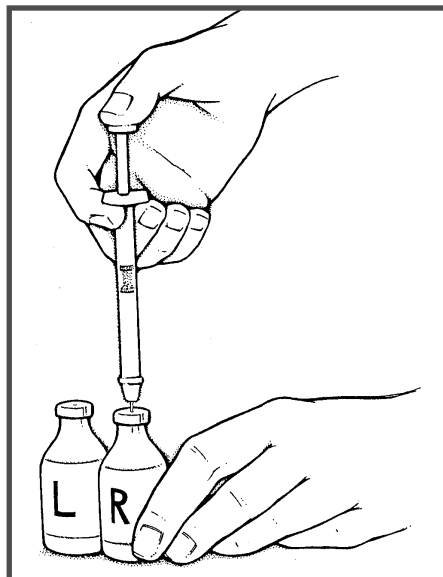
1. Gather all of your equipment
 - syringe
 - alcohol swab
 - insulin
2. Wash your hands
3. Roll the bottle of insulin between the palms of your hands or shake gently to mix the insulin well. Do not shake vigorously. This can leave air bubbles that can get into the syringe.
4. Take the needle cap off the syringe.
5. Hold syringe with needle pointing toward the ceiling. Keep syringe at eye level, so you can easily see the markings on the barrel.
6. You must put air into the insulin bottle before you can get the insulin out. First, pull the syringe plunger down until the top of the black tip crosses the mark of the dose to be taken. This draws air into the syringe.

For example: If you take 40 units of insulin, draw about 40 units of air into the syringe.

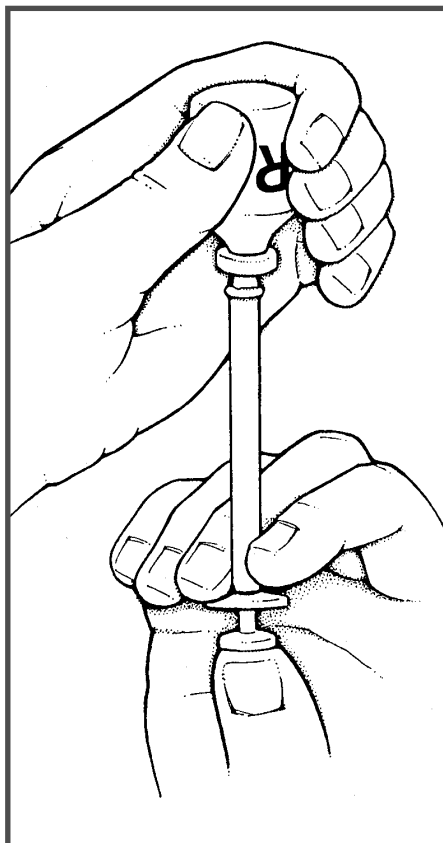


giving an insulin injection (continued)

7. Now turn the syringe tip down. Put the needle through the rubber stopper of the insulin bottle. Push down all the way on the plunger, and hold the plunger in. This puts air into the bottle.



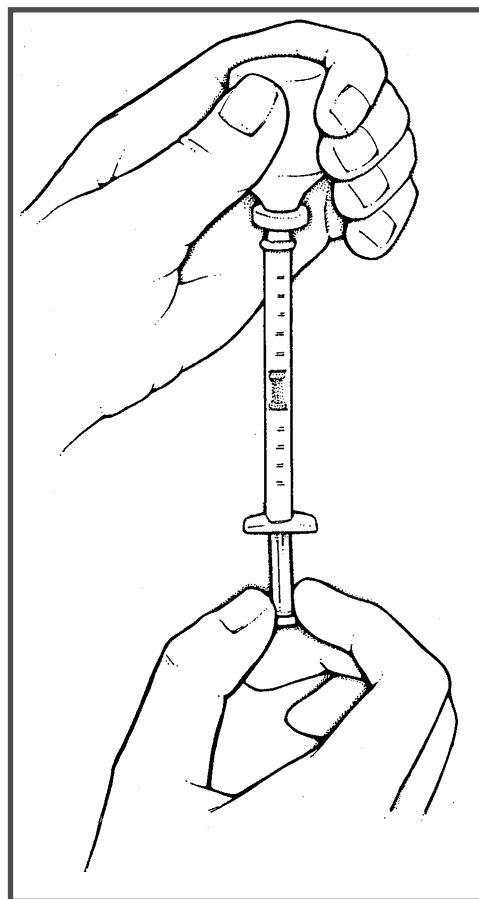
8. Turn the bottle and syringe upside down, so the bottle is on the top and the syringe is on the bottom. Leave the needle in the bottle with the plunger pushed all the way in.



giving an insulin injection

(continued)

9. Make sure the tip of the needle is in the insulin. Pull down slowly on the plunger. This brings insulin into the syringe. Pull it down until the black tip is 2 or 3 units past your dose.
10. Push all of the insulin back into the bottle. This should get rid of any air bubbles.
11. Pull down slowly on the plunger to the exact line of your insulin dose. The right amount of insulin should now be in your syringe.
12. Look in the syringe for air bubbles. If you see air bubbles, push the insulin back into the bottle. Then pull the plunger back to the exact line of your insulin dose. If bubbles are still in the syringe, repeat the process until they are gone.
13. When all the bubbles are out and you have the right dose, pull the bottle straight up and off the needle. Put the needle cap back on the syringe over the needle. Put the syringe down. Check to be sure that you have the right dose. You'll know that it's right if the top of the plunger crosses the right mark on the syringe and there are no air bubbles.
14. Now you are ready to give yourself a shot. Take a deep breath and let it out slowly to help you relax.



giving an insulin injection

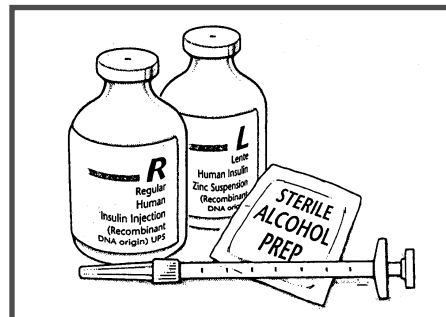
(continued)

Two kinds of insulin in the same syringe

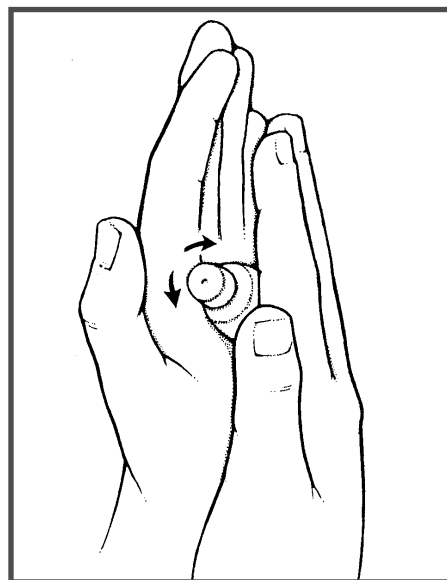
_____ insulin (cloudy) _____ units

_____ insulin (clear) _____ units

TOTAL _____ units



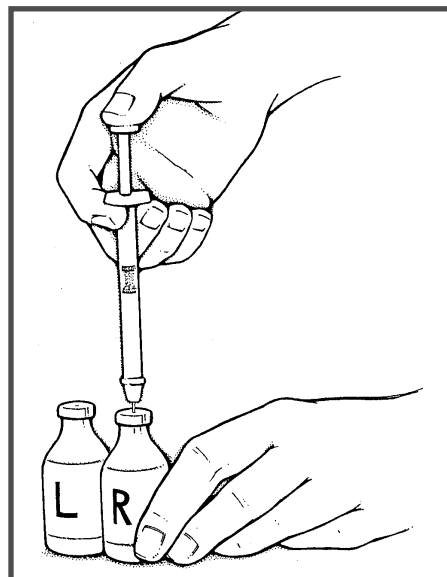
1. Get your insulin bottles, syringe, and alcohol wipe ready. Wash your hands with soap and water.



2. Roll _____ insulin between your hands or shake gently. This insulin looks cloudy.

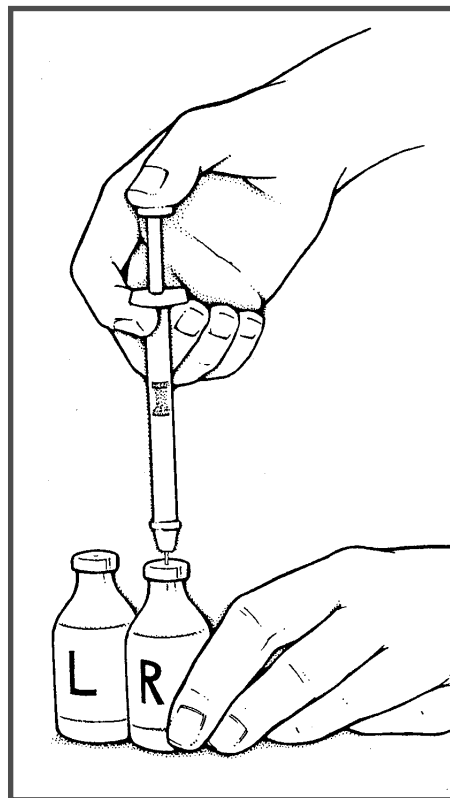
3. Take the needle cap off the syringe.

4. Pull _____ units of air into the empty syringe. Put the needle through the rubber stopper of the bottle of cloudy insulin. Push air into the bottle. Remove the bottle.

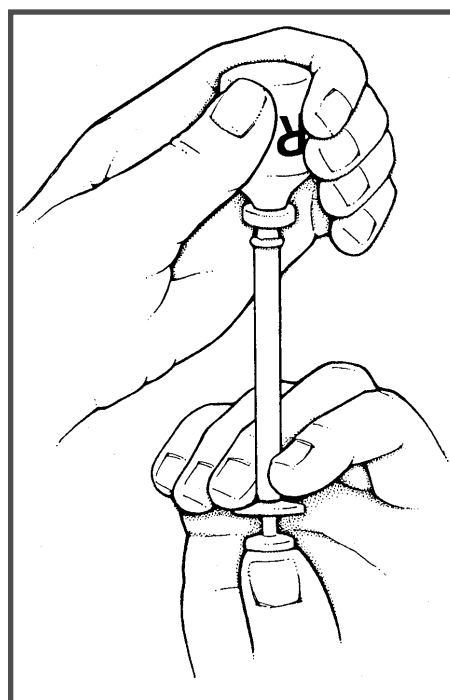


giving an insulin injection (continued)

5. Pull _____ units of air into the same empty syringe. Put the needle into your rapid- or short-acting insulin bottle. This insulin is clear. Push air into the bottle.



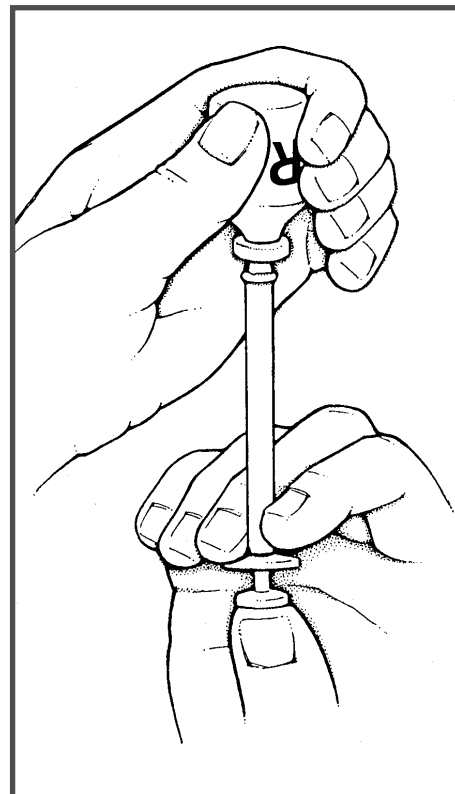
6. With the needle still in the regular insulin bottle, turn the bottle upside down. Pull plunger halfway down the syringe. This brings insulin into the syringe. Push the insulin back into the bottle to get rid of the air bubbles. Now pull your dose of insulin into the syringe. Carefully measure _____ units of clear insulin. Pull the syringe out of the bottle.



giving an insulin injection (continued)

Two kinds of insulin in the same syringe (continued)

7. Turn the cloudy _____ insulin bottle upside down. Put the needle into the bottle. Pull the plunger back slowly to total _____ units. Pull the bottle off the needle.

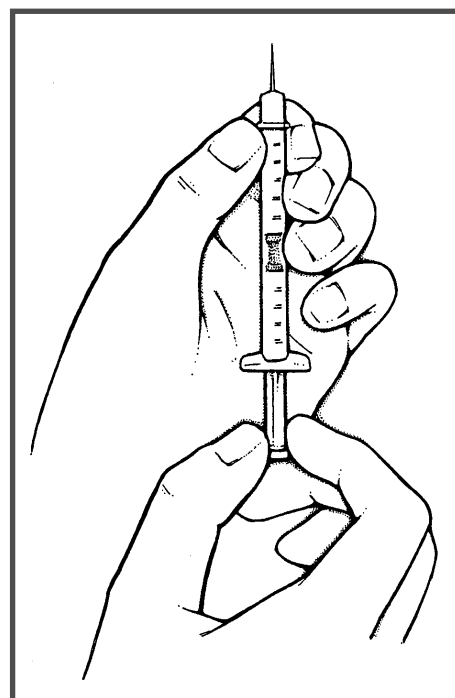


8. Check the total dosage. The dose should be:

_____ (cloudy) _____ units

_____ insulin (clear) _____ units

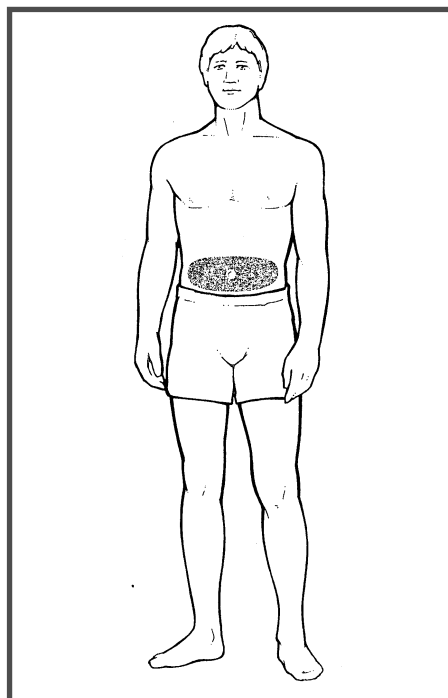
Total of _____ units now in syringe.



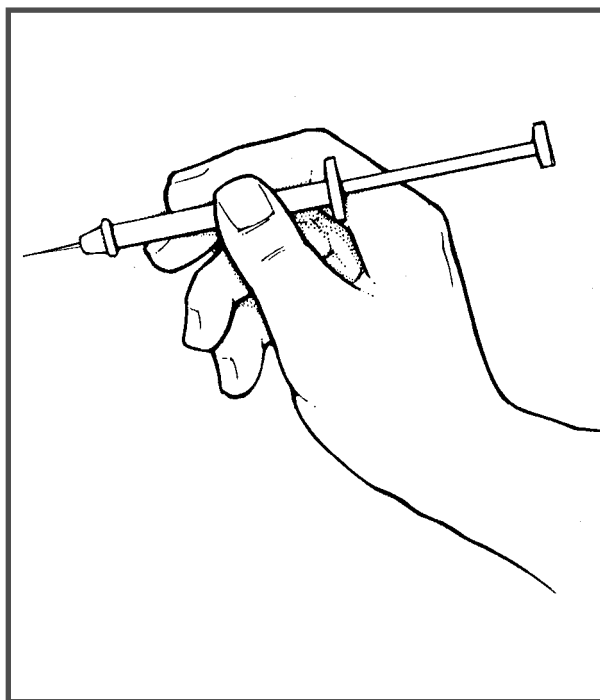
giving an insulin injection

(continued)

1. You will inject yourself in the abdomen. Insulin is absorbed most evenly from this site. Your abdomen also has fewer nerves than other places, and a pad of fat underneath. Pick a spot from the chart and then find this spot on yourself. Pick a spot at least 1 inch from the place you gave your last shot.
2. If desired, clean the spot with alcohol. Let dry.

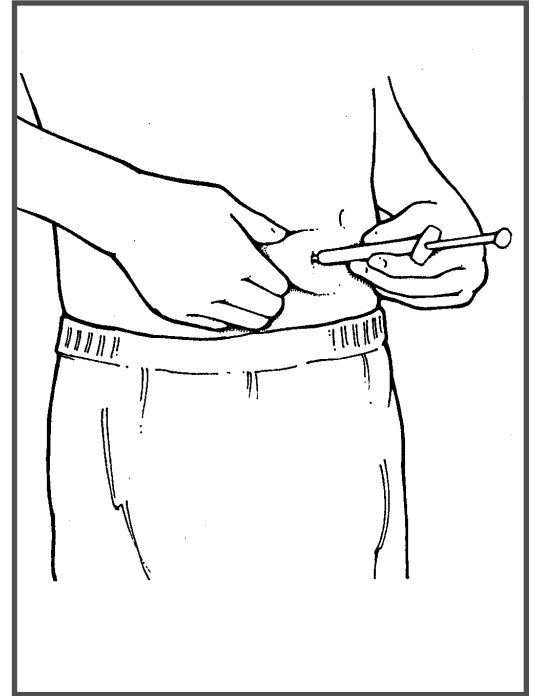


3. Hold the syringe in one hand as you would hold a pencil.



giving an insulin injection (continued)

4. With your other hand, pinch up a couple of inches of skin.
5. Stick the needle straight into the pinched skin. Put the needle all the way in through the skin with one smooth motion.
6. Relax the pinch, and slowly push the plunger all the way down. Be sure the insulin is in, then remove the needle.



7. Lightly press down on the site. Don't rub the spot. Don't worry if a drop of blood appears where the needle was.
8. When you are ready to discard your used needles and syringes, put them into a hard plastic or metal container with a screw-on lid. Label and discard according to local regulations.
9. Record the insulin dose you just gave yourself in your diabetes diary.

It may be hard to give yourself a shot the first time, but with practice it will become much easier.

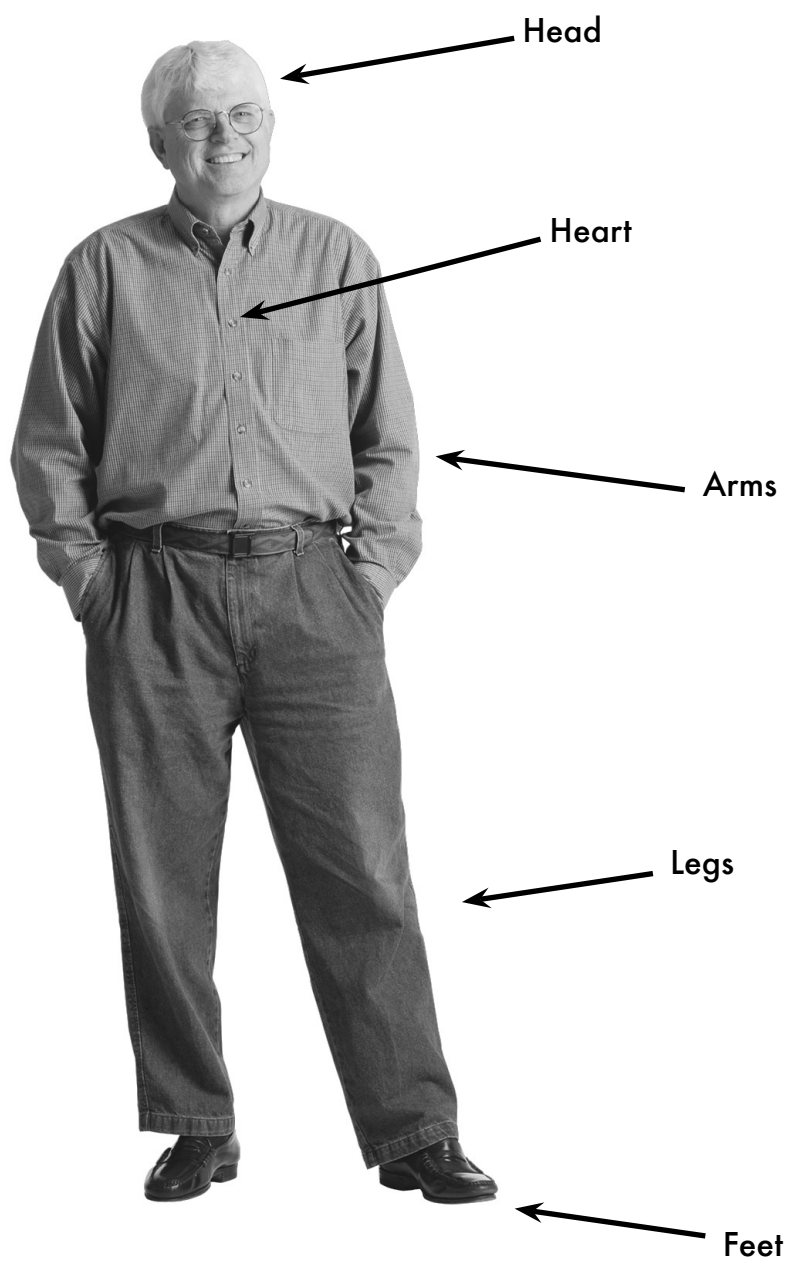


class notes

[illegible]

diabetes and your blood vessels

Your blood vessels carry blood through your body. High sugars can cause the blood vessels to get damaged and scarred. This can change how the blood gets to certain parts of your body such as your:



large vessel disease

How does this damage happen?

Sugars that are too high leave scars inside your blood vessels. This will make them stiff and hard. These scarred places trap the cholesterol (fat) that is in your blood. The blood vessel then gets blocked. Your heart has to work harder to pump the blood through these blocked places.

When blood flowing to any part of your body is slowed or stopped by blocked blood vessels, it can cause serious problems.

Arteriosclerosis: when fat builds up on the wall of the blood vessels.

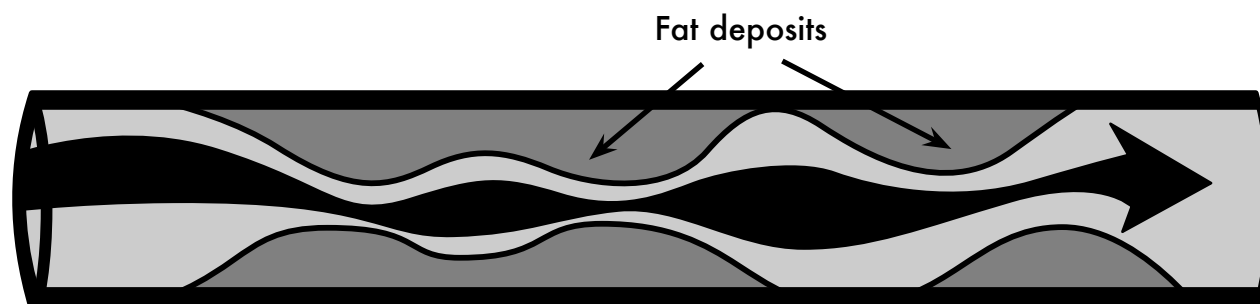
Hypertension: high blood pressure.

Heart Attack: when the blood flow to the heart is blocked and the heart are damaged.

Stroke: when the blood flow to the brain is blocked and the brain are damaged.

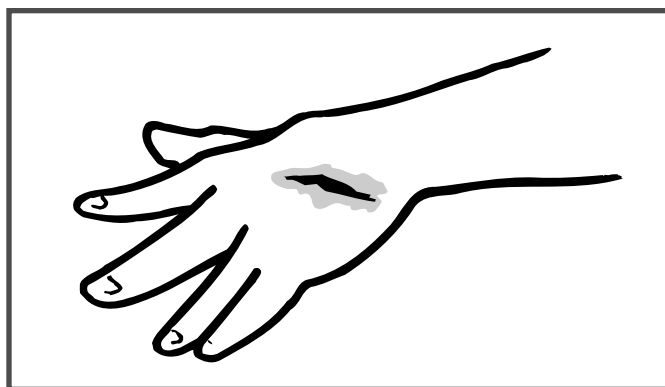


Normal



Arteriosclerosis

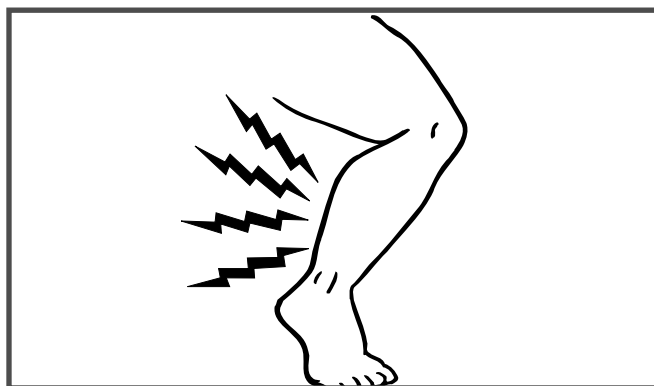
signs that the blood flow is blocked or slowed to these parts of your body



Slow healing cuts and sores



Dizzy spells

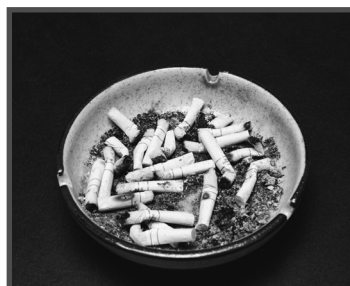


Leg cramps that may go away with rest

how can I keep this damage from happening to my body?



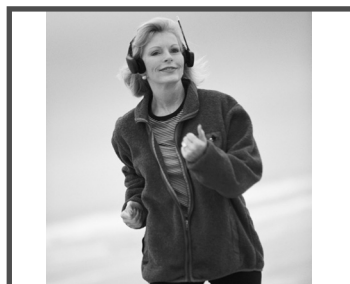
Control your blood sugars



No smoking



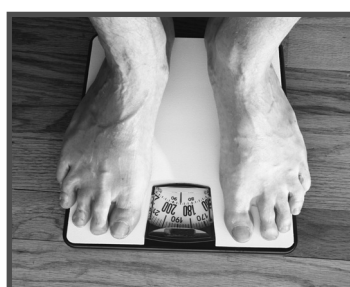
Low fat diet



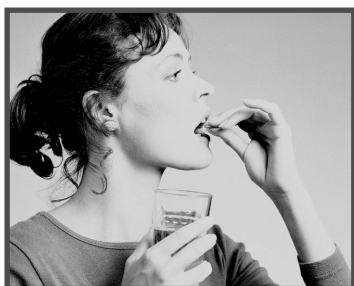
Exercise



Control your blood pressure



Maintain a good weight



Take an aspirin a day
(talk with your doctor)

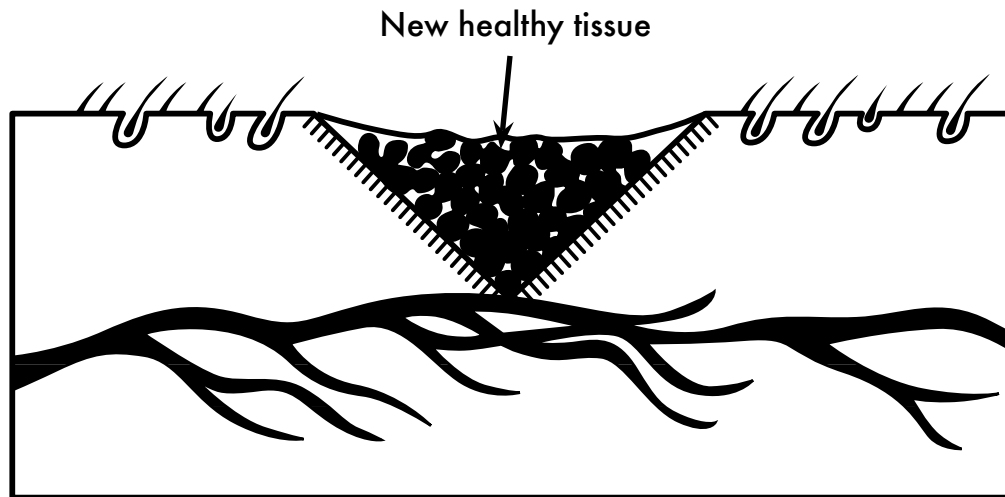
LDL < 100 mg/dL

HDL > 45 mg/dL

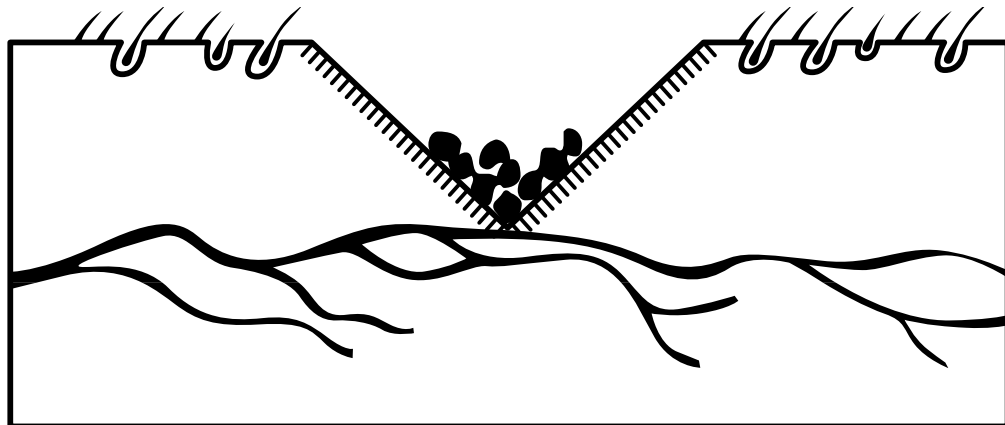
**Triglyceride
< 200 mg/dL**

Keep your cholesterol low

wound healing

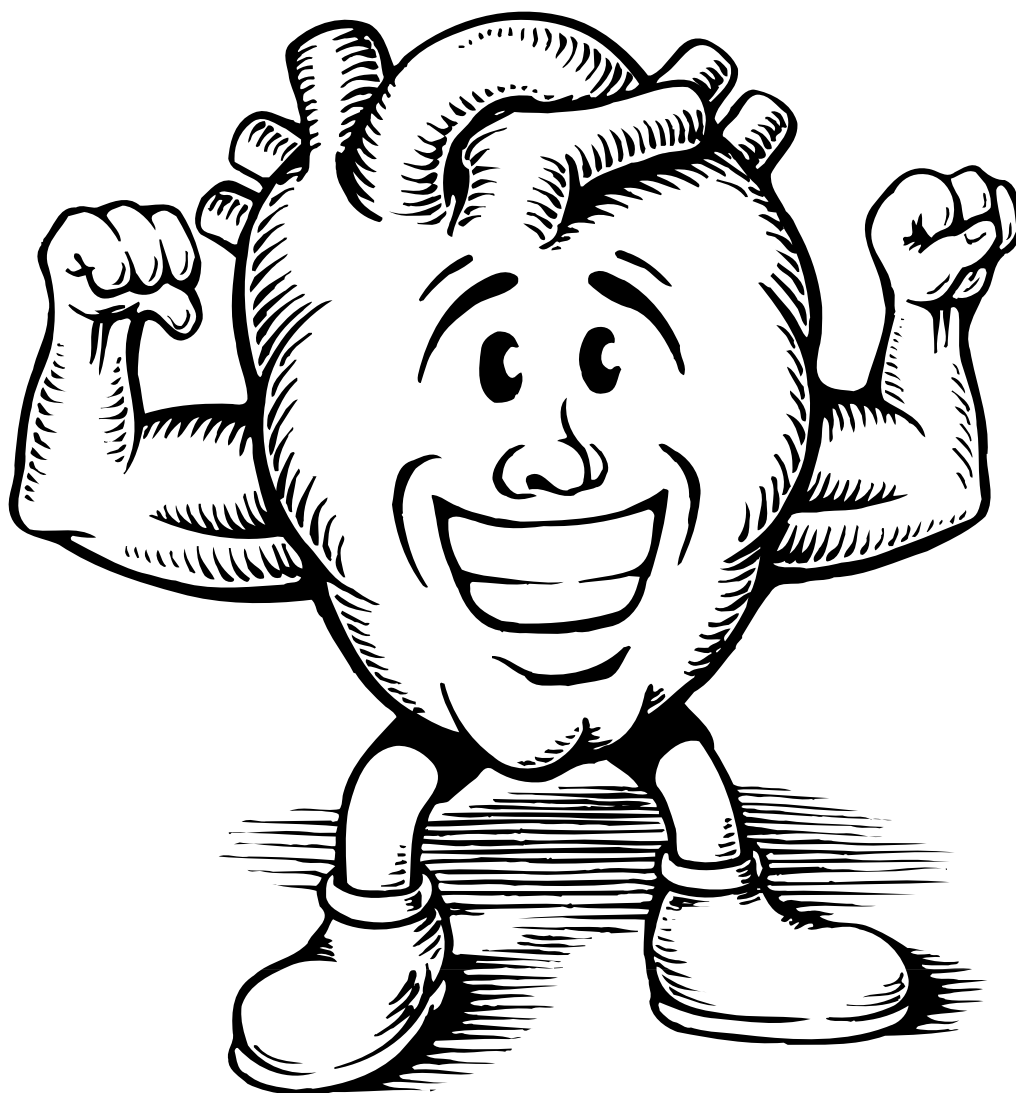


Normal Circulation

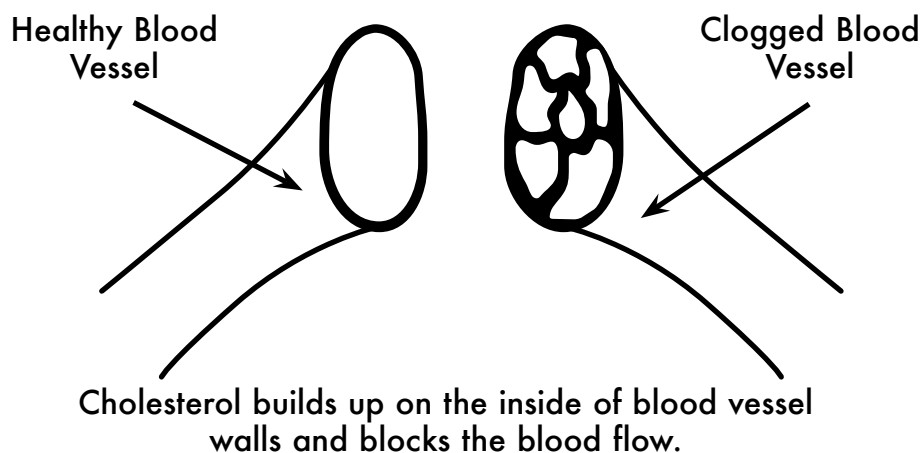


Arteriosclerosis

your heart and cholesterol



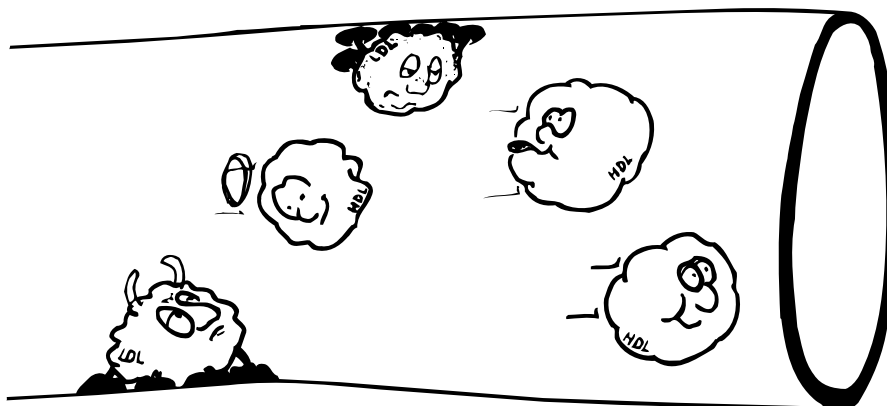
large vessel disease



HDL Cholesterol is good for you.



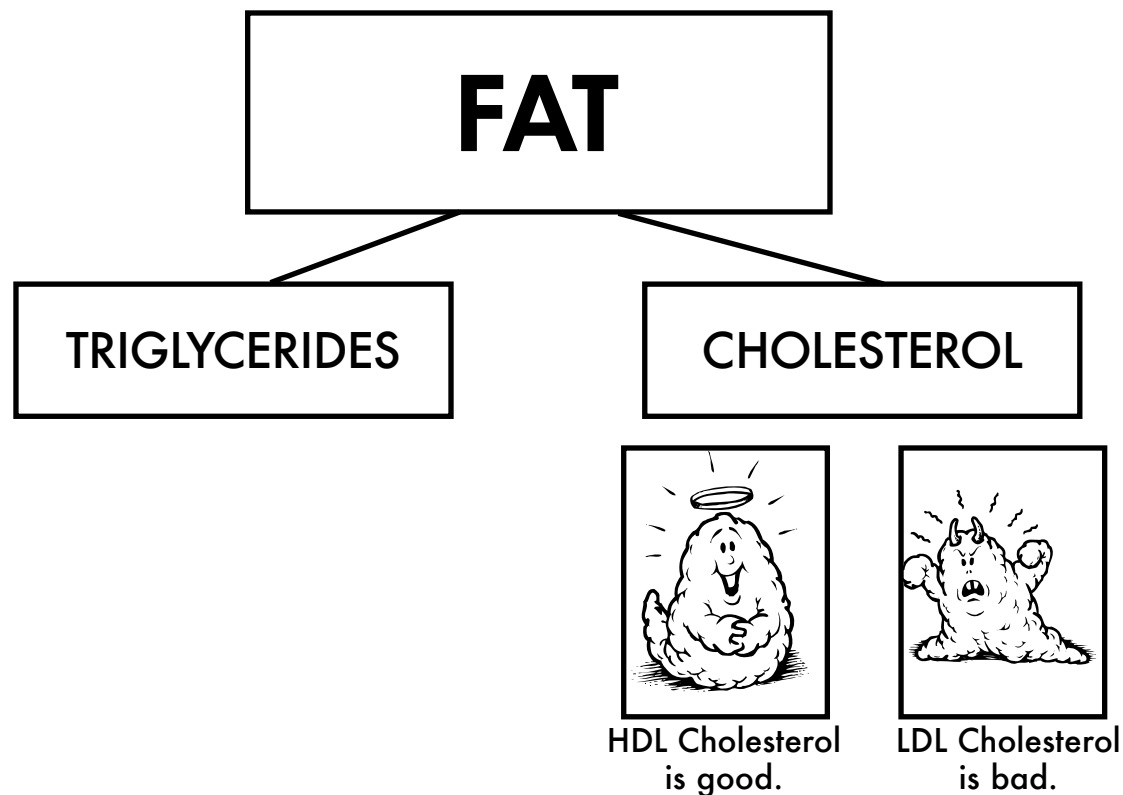
LDL Cholesterol is bad for you.



LDL Cholesterol (Low-density lipoprotein): Bad Cholesterol. It builds up on the walls of the blood vessels and blocks the flow of blood, causing heart disease and strokes.

HDL Cholesterol (High-density lipoprotein): Good Cholesterol. It protects the body from getting heart disease. It does not build up on the blood vessel walls.

types of fat in blood



cholesterol goals

LDL Less than or equal to 100mg/dl	HDL Greater than 45mg/dl	Triglyceride Less than 200mg/dl
--	---------------------------------------	--

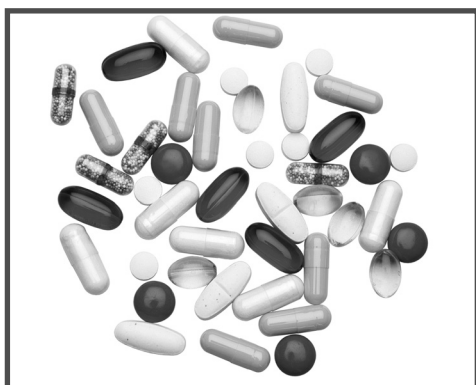
you can lower your cholesterol



Low fat diet



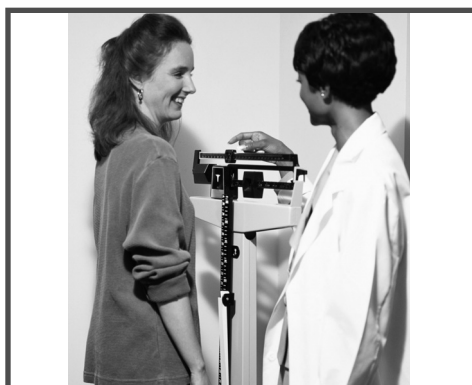
Exercise



Medications



Buy the right foods



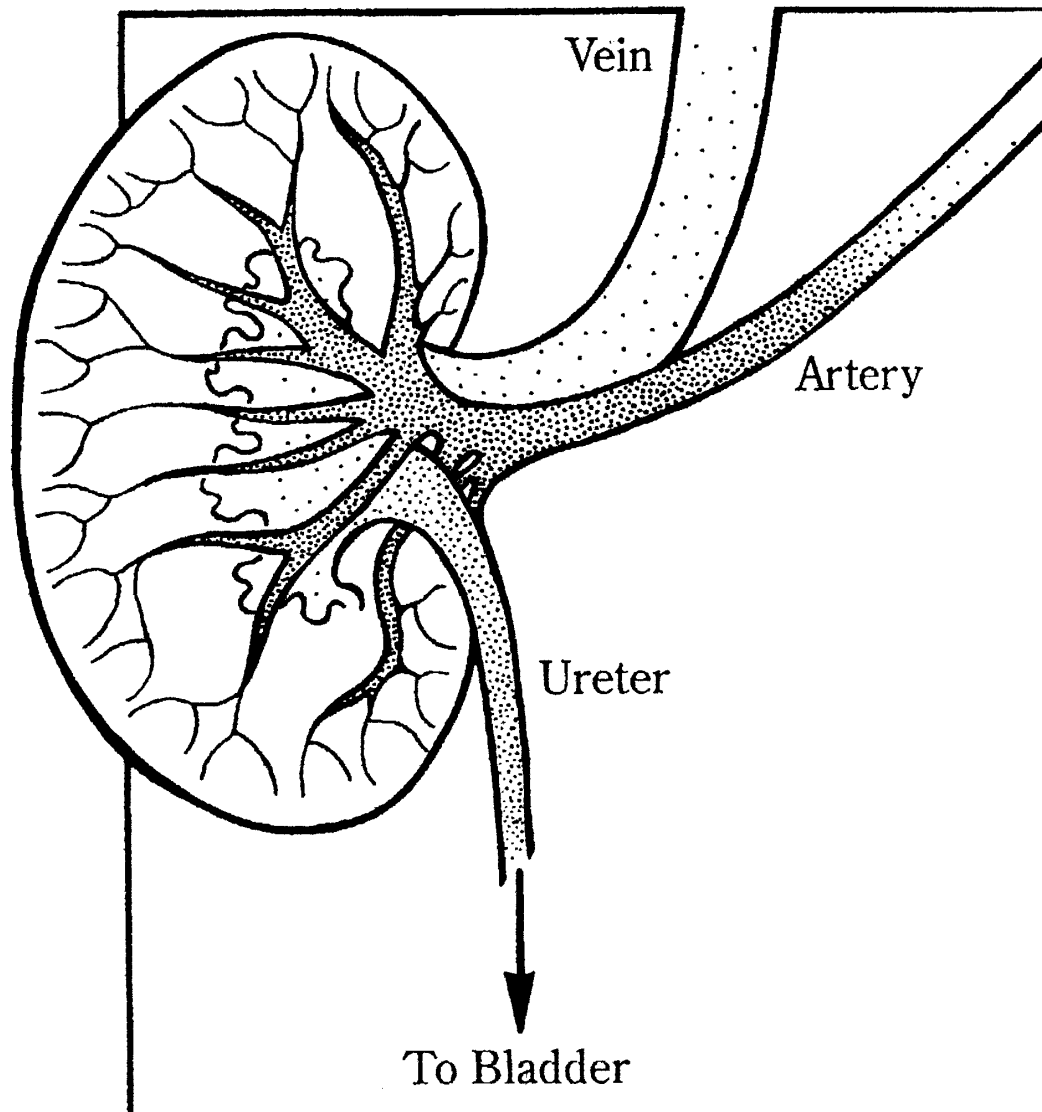
Lose weight if necessary

determining your risk of heart disease

Check all statements that apply to you. If you check 2 or more statements, see a healthcare provider for a complete assessment of your risks.

- ☐ AGE & SEX. I am a man over 45 years old or I am a woman over 50 years old or I am a woman who has passed menopause or had my ovaries removed.
- ☐ FAMILY HISTORY. My father or brother had a heart attack before age 55 or my mother or sister had one before age 65 or my mother, father, sister, brother or grandparent had a stroke.
- ☐ BLOOD PRESSURE. My blood pressure is 140/90 mm Hg or higher, or a health professional has said my blood pressure is too high, or I don't know what my blood pressure is.
- ☐ TOBACCO SMOKE. I smoke or live or work with people who smoke every day.
- ☐ TOTAL CHOLESTEROL. My total cholesterol is 240 mg/dl or higher, or I don't know my level.
- ☐ HDL CHOLESTEROL. My HDL ("good") cholesterol is less than 40 mg/dl, or I don't know my HDL cholesterol level.
- ☐ PHYSICAL ACTIVITY. I get less than a total of 30 minutes of physical activity on most days.
- ☐ OVERWEIGHT. I am 20 pounds or more overweight for my height and build.
- ☐ DIABETES. I have diabetes (a fasting blood sugar of 126 mg/dl or higher) or I need medicine to control my blood sugar.
- ☐ HEART DISEASE MEDICAL HISTORY. I have coronary heart disease, atrial fibrillation or other heart conditions, or I've had a heart attack.
- ☐ STROKE MEDICAL HISTORY. I've been told that I have carotid artery disease, or I've had a stroke or TIA (transient ischemic attack) or I have a disease of the leg arteries, a high red blood cell count or sickle-cell anemia.

your kidneys



Your kidneys work like a filter. They have very small blood vessels that filter the blood. They keep what the body needs and get rid of what the body does not need. Damage is being done before symptoms occur. Protein (microalbumin) shows up in your urine very early, when damage is just beginning to happen. Body wastes build up in your blood stream when the kidneys are damaged.

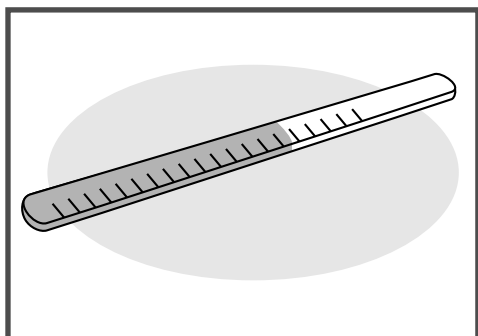
you can lower your risk for kidney disease



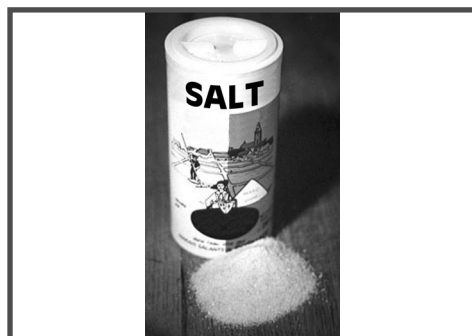
Blood sugars less than 140



Keep your blood pressure
below 130/80



Have your doctor check your
urine for microalbumin
every year



Talk with your doctor about
the use of salt



Ask doctor before you have
tests that use dyes



Call doctor at the first signs
of a urinary tract infection

Ace inhibitors

These are medicines that your doctor can give you try to keep your blood pressure down and/or the kidneys working as they should. High blood pressure will damage your kidneys more because it will make your kidneys work harder.

Ask your doctor about Ace Inhibitors.

Some of them are:

Accupril (Quinapril)

Vasotec (Enalapril)

Prinivil (Lisinopril)

Monopril (Fosinopril)

Zestril (Zeneca)

Capoten (Catopril)

Lotensin (Benazepril)

Univasc (Moexipril)

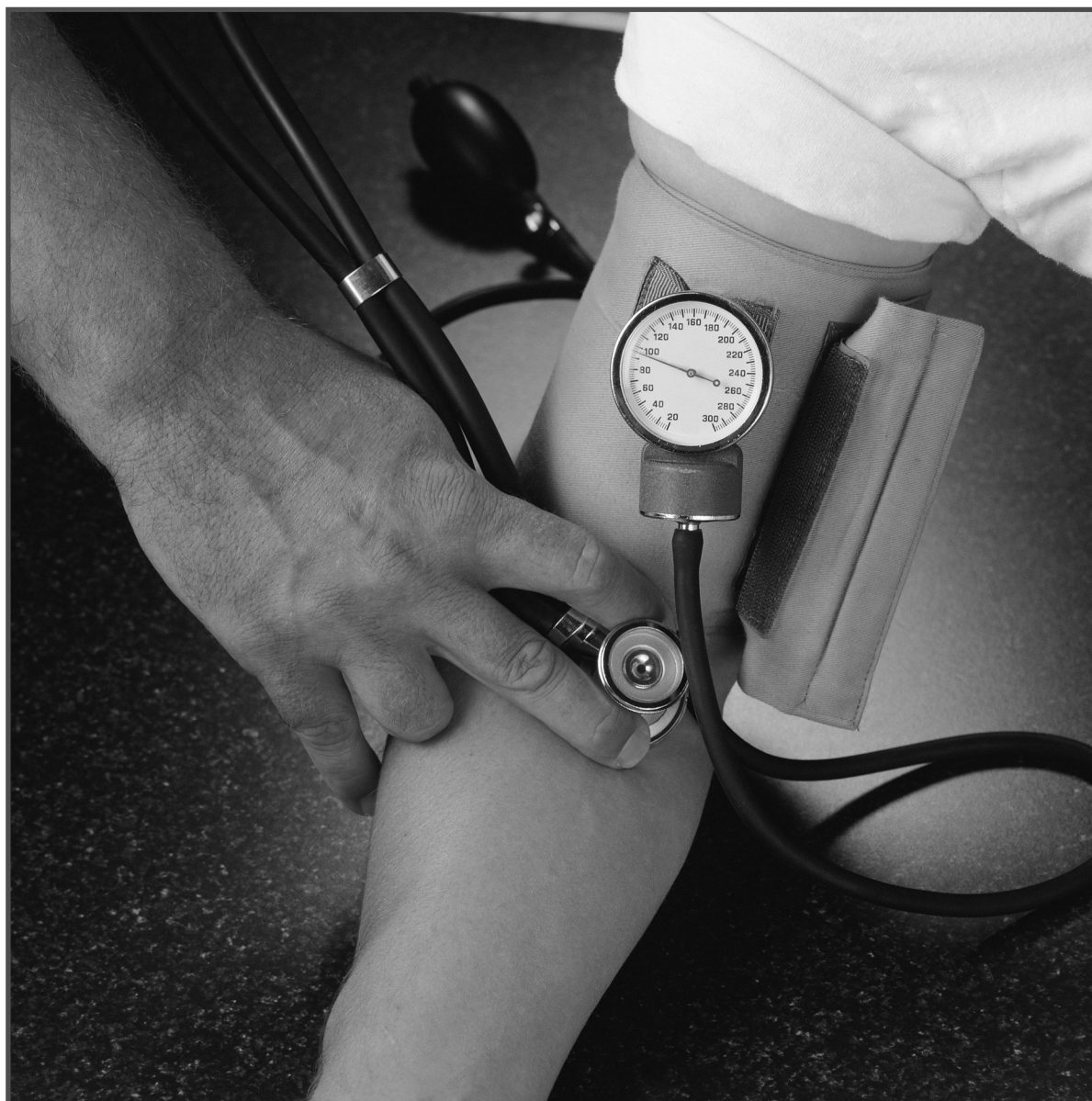
Mavik (Trandolapril)

Altace (Ramipril)

signs and symptoms of a urinary tract infection (bladder infection)

- Blood in the urine
- Pus in the urine
- Burning/stinging when urinate
- Frequent urination
- Low back pain
- Low abdominal pain
- Fever

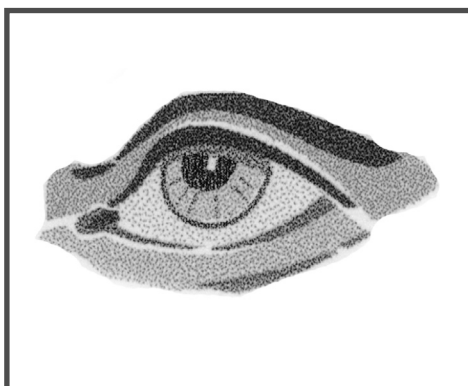
*blood pressure
goal - 130/80 or less*



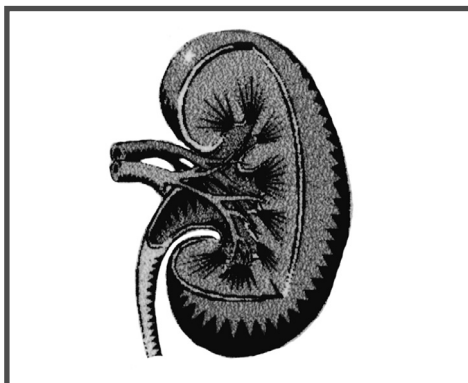
have your blood pressure checked regularly

People with diabetes are 2 times more likely to have high blood pressure.
High blood pressure can cause damage to your:

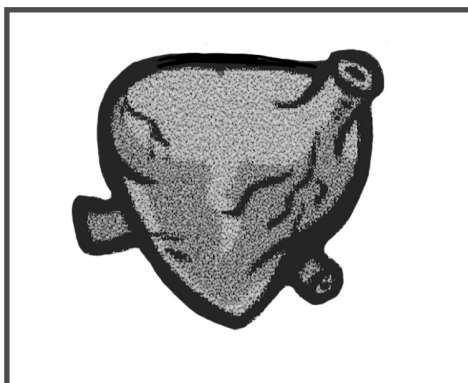
Eyes



Kidneys



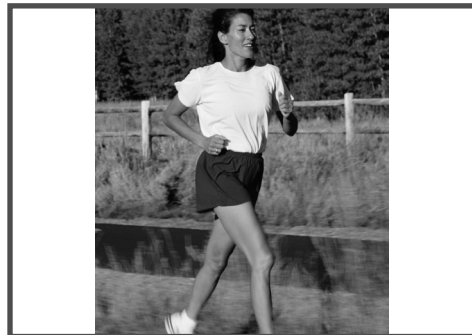
Heart



guidelines to control blood pressure



Take your medicine as ordered



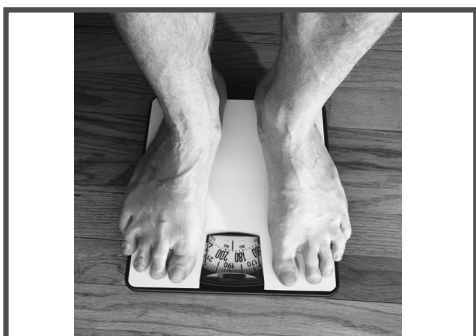
Get some exercise. Check with your doctor before beginning any exercise program.



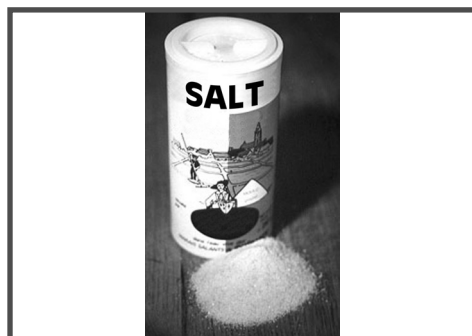
Low fat diet



Relaxation



Keep your weight down. Loose weight as your doctor recommends.



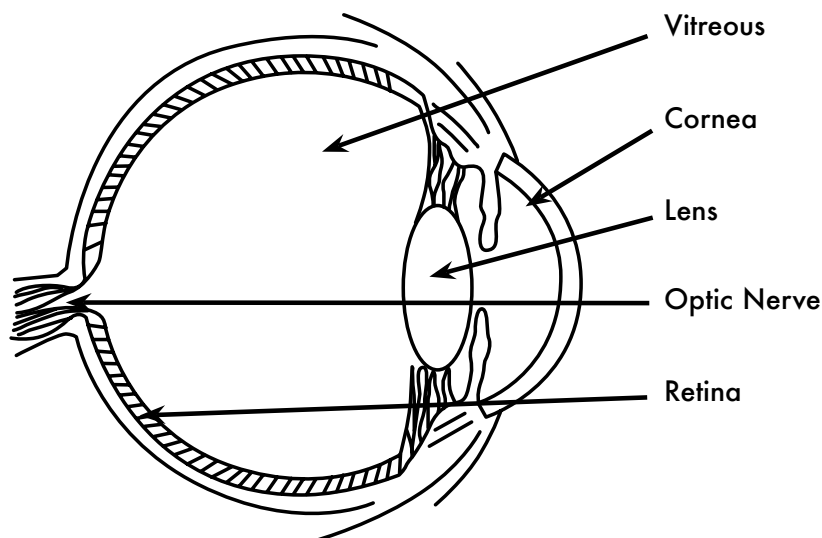
Avoid foods high in salt

personal goals for blood pressure control



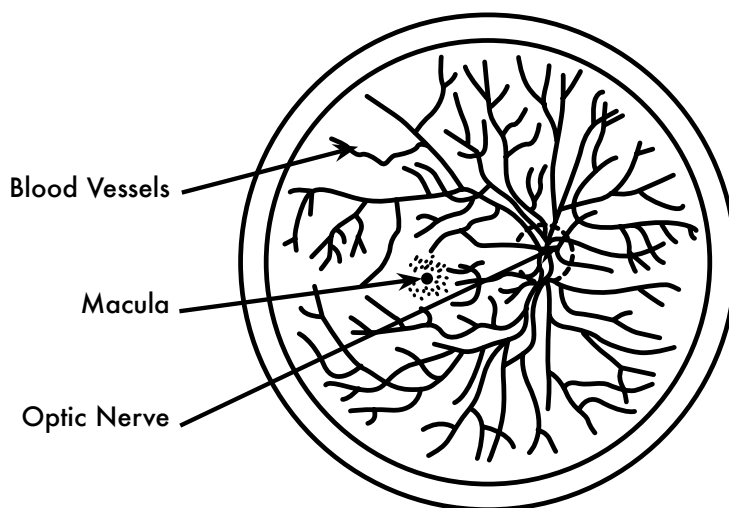
My blood pressure is	
I want my blood pressure to be	
I can lower my blood pressure in these ways	
My blood pressure medicine is	
I take this much medicine each day at these times	

diabetic eye disease



Your eye works like a camera. Light goes in through the lens. The picture is made on the film at the back of the camera.

The front of the eye that is clear is like the lens of the camera and it allows light to pass to the center of the eye. The center of the eye is called the vitreous cavity and it contains the vitreous gel. This gel is clear and jelly like. The light passes through it and hits the retina at the back of the eye. A picture of what you see is taken. The message goes from the retina to the brain through the optic nerve. The brain then tells you what you are seeing.



The eye gets its blood supply from very small blood vessels.

diabetic retinopathy - bleeding in the eye

Diabetic Retinopathy



High blood sugar will cause the small blood vessels in the eye to burst and bleed. This is called Diabetic Retinopathy. When this first happens you will not know it. An eye doctor can tell by checking your eyes. If your eye doctor can see these changes early, then he can treat it and help you to keep your eyesight. If your blood sugar continues to stay too high, and you do not have an eye doctor to check your eyes, you could go blind. If you wait until it changes your ability to see, then it has gotten worse. Your doctor may then not be able to save your sight.

Diabetics have more problems with glaucoma. Glaucoma is an increase of the pressure in the eye. The pressure pinches the blood vessels that carry blood to the eye. Vision is lost when parts of the eye are damaged. Your eye doctor can treat glaucoma with medicines, or surgery may be needed.

Diabetics have more problems with cataracts. Cataracts are caused by high sugar in the lens of the eye. It causes swelling and a clouding of the eye lens. When cataracts make it hard for you to see, your eye doctor may be able to replace the lens of the eye with a plastic lens. Cataract surgery often helps people see clearly again.

Both of these can cause you to loose all or part of your eyesight.

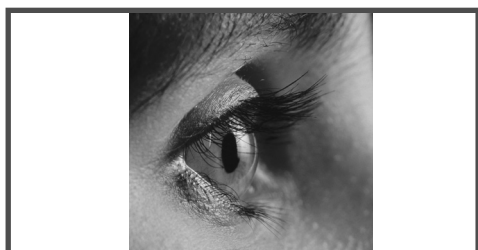
how to care for your eyes



Keep your blood sugars
below 140 mg.



Keep your blood pressure
below 130/80.



Have dilated eye exams every
year so that doctors can see
any change in your eyes.



Keep your cholesterol down
below 200.



Do not smoke

WHEN TO CALL YOUR EYE DOCTOR

Blurry vision, like you are looking through a rainy window.
Sudden flashes of light, like when a bright light is turned on.
Seeing things that seem to float.
Seeing "smoke" or "cobwebs".
Having blind spots.
Not being able to tell different colors.
Any changes in your eye sight.

class notes

[illegible]

foot care

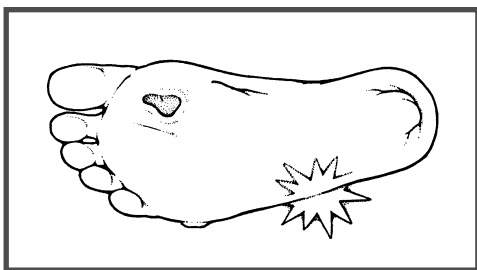


why is this important?

diabetes can damage the nerves and blood vessels in your feet



You may not feel pain in your feet and legs when you hurt them.



Cuts and sores will heal more slowly and you may get an infection.

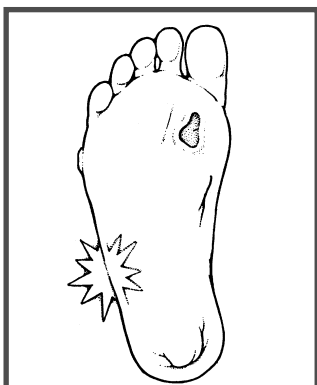


You could lose your foot or leg.

check your feet every day



1. Use good light.
2. Use a mirror if you need to.
3. Check your feet for tender spots or ingrown toenails.
4. Look for any swelling.



5. Look for any cracks, corns or callouses.
6. Look for any changes in color - redness or dark color.
7. Look for any cracks between the toes.
8. Look for any cuts.



9. Look for any blisters.
10. Look for any insect bites.
11. Look for any sores that are slow to heal or have drainage.
12. If you have any of these problems, call your doctor.

foot care



1. Wash your feet every day.

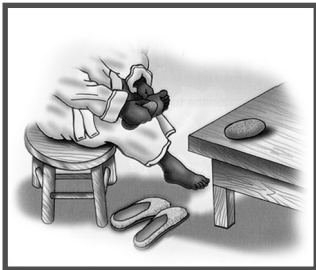
2. Use lukewarm water.

3. Dry feet well; don't forget between the toes.



4. Put lotion on your feet.

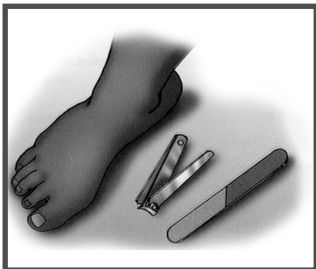
5. Do not put lotion between the toes.



6. Put powder between the toes.

7. Wear socks and shoes.

8. Wear clean socks every day.



9. Empty and check your shoes before you put them on.

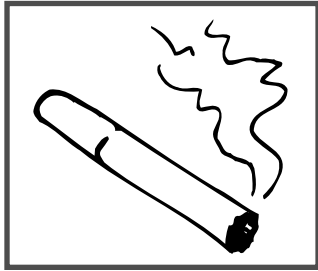
10. Use an emery board to file your nails if needed.



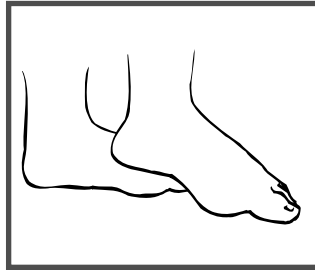
11. Cut toe nails straight across.

12. Have your doctor check your feet every office visit.

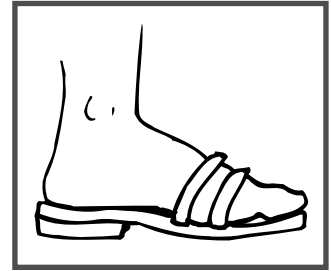
do not do these things



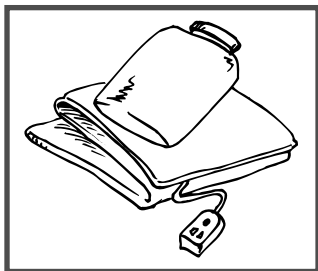
No smoking



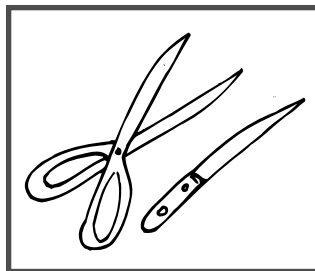
No bare feet



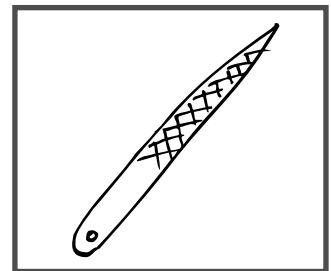
No open toed shoes



No electric socks, heating pads, electric blankets or hot water bottles.



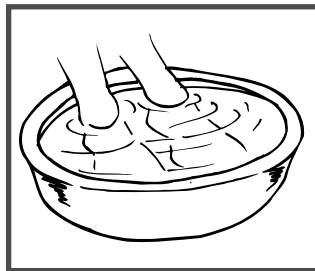
No bathroom surgery



No metal files



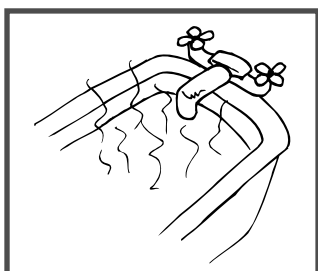
No over the counter corn removers



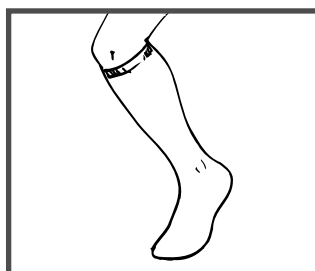
No soaking of the feet



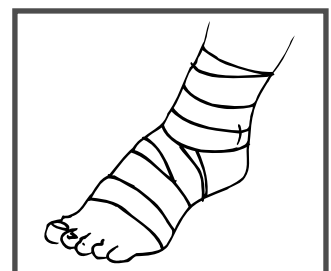
No tight shoes, or worn shoes



No hot water



No tight socks or knee hi's

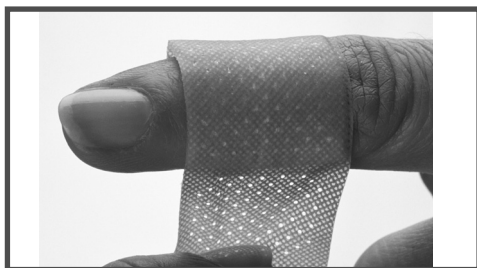


No tight shoes or bandages

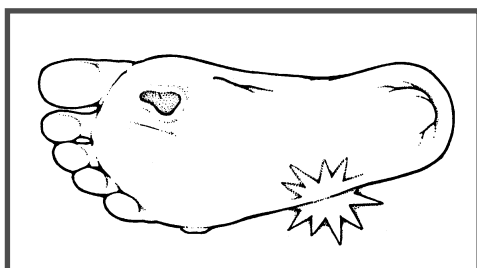
what would you do for a small cut?



Clean well.



Use a dressing or bandage.



Watch for infection
(redness, pus, soreness or
tenderness, swelling.)



Call your doctor if the cut is not
healing quickly.

footwear tips

Buy good walking shoes; they're worth the money.



Shop for shoes in the afternoon, when your feet are a little swollen.

Wear thick athletic socks or special padded socks when you go to buy your shoes.

cotton ball test

Remove your shoes and socks.

Drag a cotton ball lightly across your toes.

If you cannot feel the cotton, you may have some nerve damage.

Your doctor needs to know this right away.

Do this cotton ball test at home, every month.



Does your shoe fit?

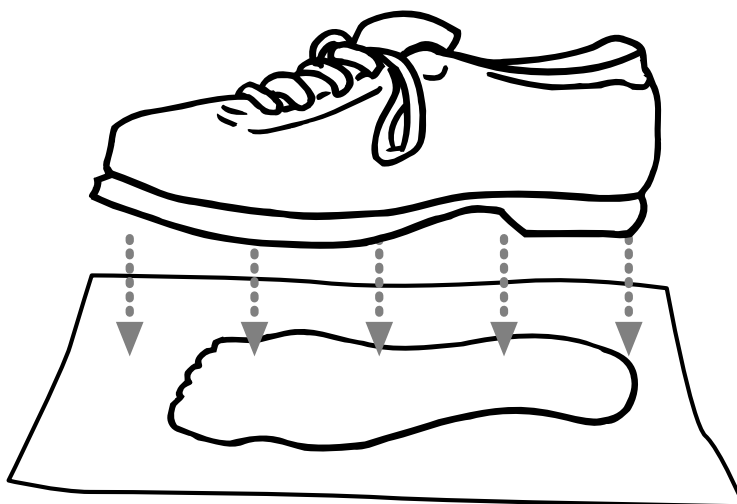
Take your shoes and socks off.

Place your foot on a sheet of paper on the floor.

Draw an outline of your foot.

Then place shoe on top of the outline of your foot.

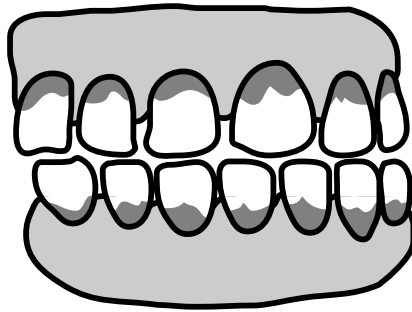
Do you have room for your toes? Does your shoe fit your feet?



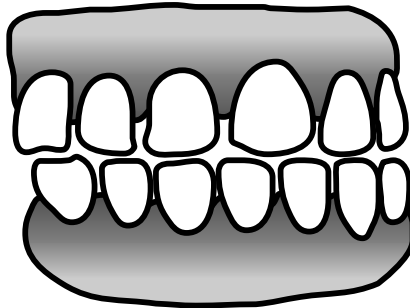
dental care

Diabetes increases your chances of having gum and tooth problems.

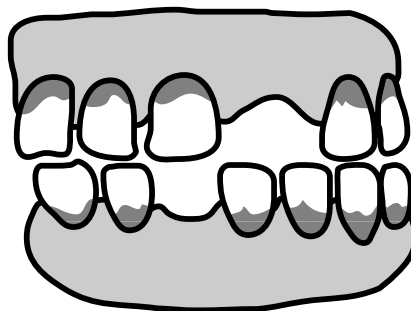
What kind of problems?



Plaque builds up

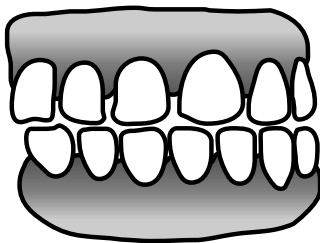


Red swollen gums

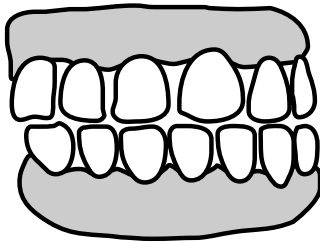


Teeth fall out

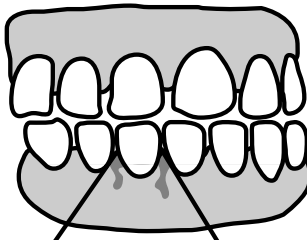
signs of gum disease



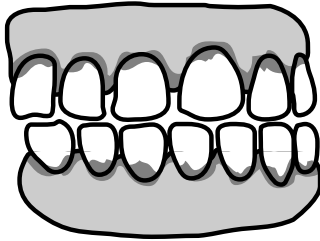
Red swollen gums



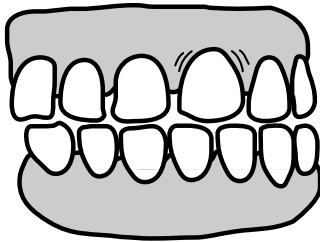
Gums that have pulled away from teeth



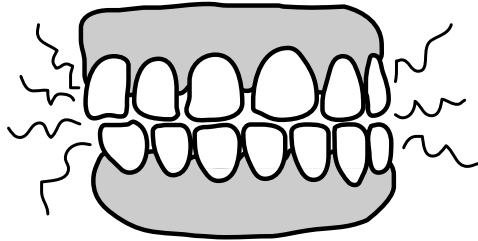
Gums bleed easily when brushed or flossed



Pus between the teeth and gums



Loose permanent teeth



Daily bad breath

how to keep your teeth healthy



Brush 2 times a day.



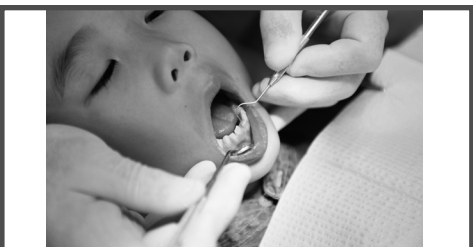
Floss every day.



Do not smoke.



**Keep your blood sugar
under control.**

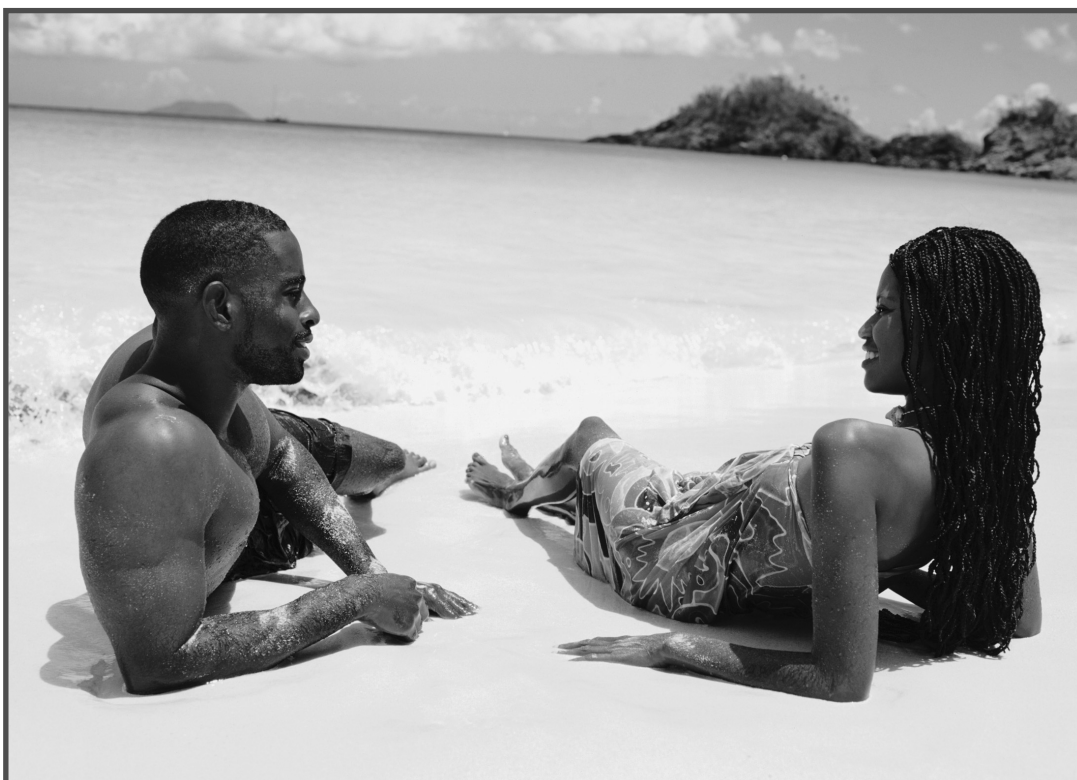


**See your dentist twice a year to
have your teeth cleaned.**

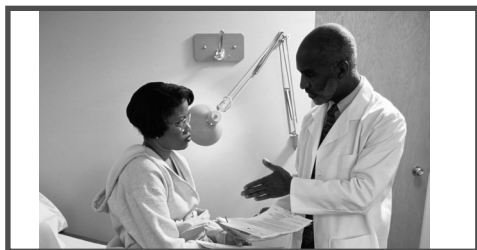


**Report signs of gum
disease to your dentist.**

travel and vacation



get ready



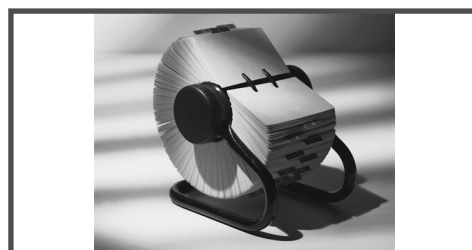
Check with your doctor



Get a letter from your doctor about your medical condition



Get prescriptions for medicine, insulin, eye glasses and supplies



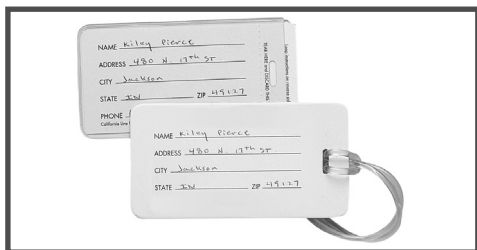
Get the name, address and phone number of a doctor that will be close by



Take your doctor's phone number with you



Take your insurance card with you



Take a card with your name, address, phone number and emergency numbers on it

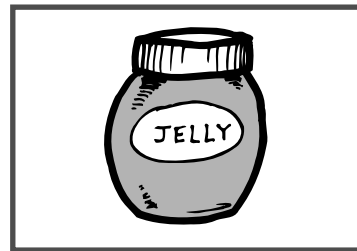
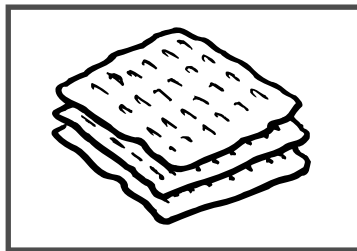
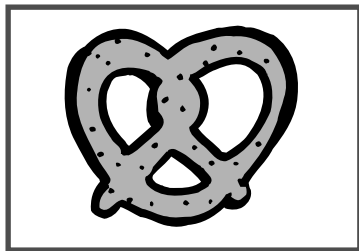


Wear your Medic Alert jewelry

snacks to take

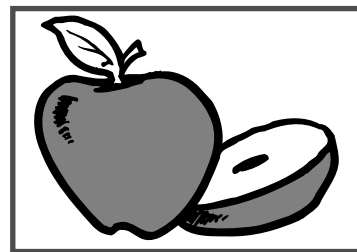
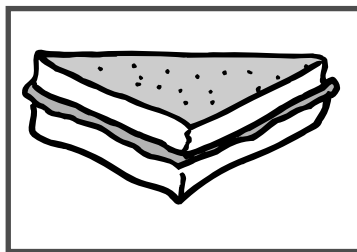
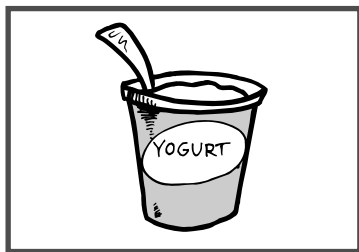
Snacks that you do not have to keep cool:

Peanut butter, bagels, cans or boxes of juice, crackers, pretzels, raisins



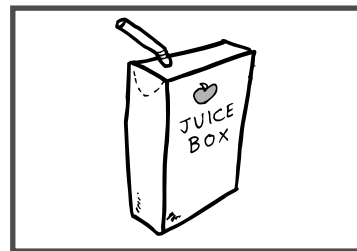
Snacks that you can keep in a cooler:

Yogurt, low fat cheese, half sandwiches, fresh fruit

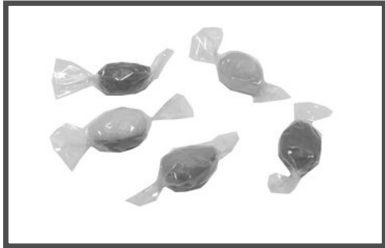


Remember to pack quick-acting carbohydrates

Juice, jelly, cola, graham crackers



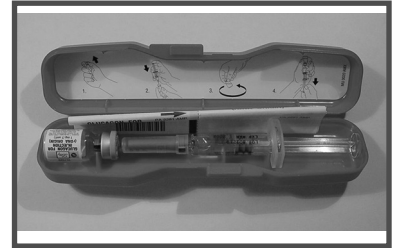
packing



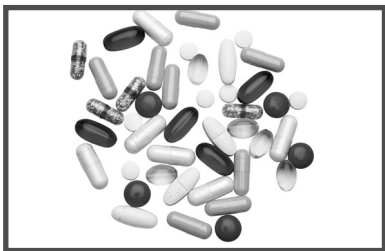
Quick sugar source



A small case that you will keep with you



Glucagon kit for low blood sugar



Medicine and pills; tighten all lids



Sugar machine and testing equipment



Insulin syringes and pen. Pack insulin vial in a waterproof bag.



Extra batteries for your sugar machine

packing (continued)

Shoes

Break in new shoes before you leave.

Take an extra pair of shoes with you.

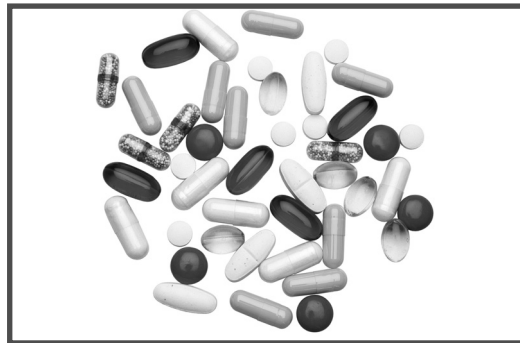
Take socks to wear with your shoes.

Take shoes that you will need to wear on the beach or at the pool.



Other Medications

- Medications for an upset stomach
- Tylenol, Advil, Immodium
- Antibiotic ointment
- Sunscreen



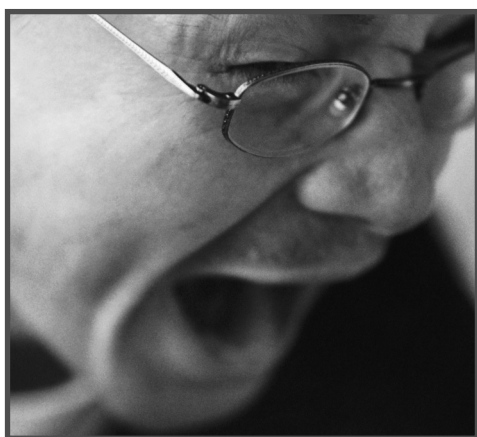
class notes

[illegible]

stress

When you are first told you have diabetes, the three hardest words that you have to say are **"I have diabetes."**

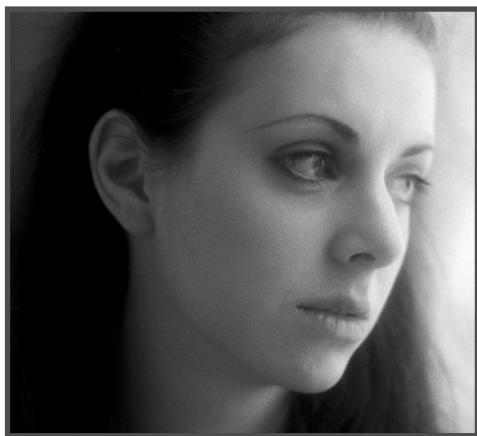
You may feel:



Angry



Afraid



Sad



Coping

stress

(continued)

Stress can make your blood sugar go up.

Kinds of stress:

Problems with your marriage or family.

Worrying about money.

Problems or changes at work.

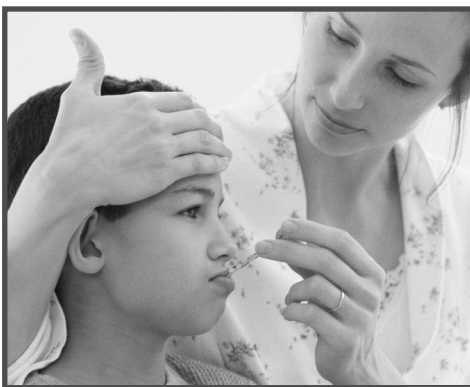
Illness or death in your family.

Worrying about your children.

Moving.

Getting married, divorced, or the birth of a child.

Going to the doctor.



beat stress



Take a walk



Dance



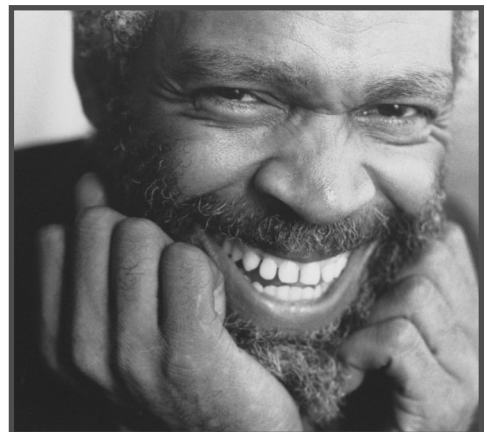
Take up a hobby



Learn to relax



Talk with someone



Laugh

Learn to say NO to things you do not really want to do.

relaxation techniques

1. Deep breathing exercise

Assume a comfortable position. Have the room quiet, without distractions.

Breathe in slowly through the nose for 4 counts and breathe out slowly through the nose for 8 counts.

Close your eyes and continue to breathe deeply and slowly.

Relax all the muscles in your head and neck. You can feel all the tension leaving your face, neck, shoulders, arms and hands. You are limp and relaxed like a ragdoll. Continue to breathe deeply. Now relax your back, abdomen, buttocks, thighs, legs, feet and toes. You are totally relaxed. Breathe deeply in for 4 counts and out for 8 counts.

2. Visual image exercise

Use visual images to relax the mind and body. Sometimes called a “mental vacation,” this technique can leave you refreshed and recharged.

Practice visual imagery or 5 - 10 minutes.

Close your eyes and travel in their minds to a place in their lives that was beautiful and peaceful.

It can be any place where you feel happy, relaxed and at peace.

“What do you smell?”

“What do you hear?”

“What do you feel?”

“What do you see?”

Continue relaxing for a few minutes. Let go of these images. Stretch. Open your eyes.

problem solving: you have the power

- P** Problem: Write down something that you want to change.
Example: Eating too much food at one time.
- O** Overall Goal: Tell why changing this would be good for you.
Example: Keep from gaining weight; easier to control my blood sugar.
- W** What: Think of how you can make this happen.
Example: Do not go back for seconds, and take smaller servings of food.
- E** Evaluate: Could you do it?
Example: I did it at the family reunion, or when we ate out last time. Very good job!
Try doing it again.
- R** Reward: Celebrate your success.
Example: Go to a movie with a friend; buy yourself a book to read.

the road to changing behavior

PRE-CONTEMPLATION

Not thinking about making any changes.

CONTEMPLATION

Thinking about making changes.

PREPARATION

Planning to make changes

ACTION

Making the changes

MAINTENANCE

Making the change part of your routine.

How convinced are you that this change is needed?

Not at all Somewhat Fairly Mostly Very

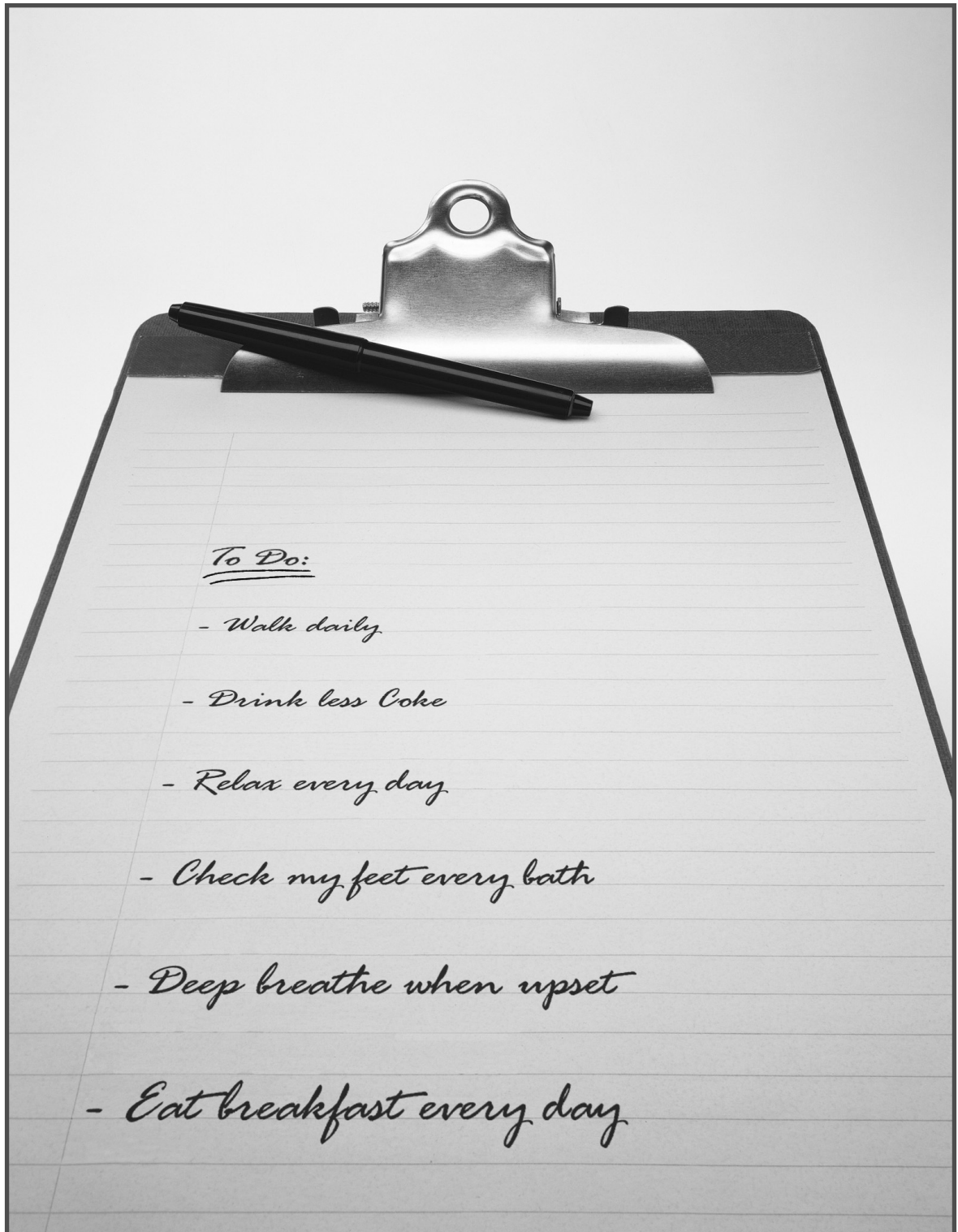
How confident are you in your ability to make this change?

Not at all Somewhat Fairly Mostly Very

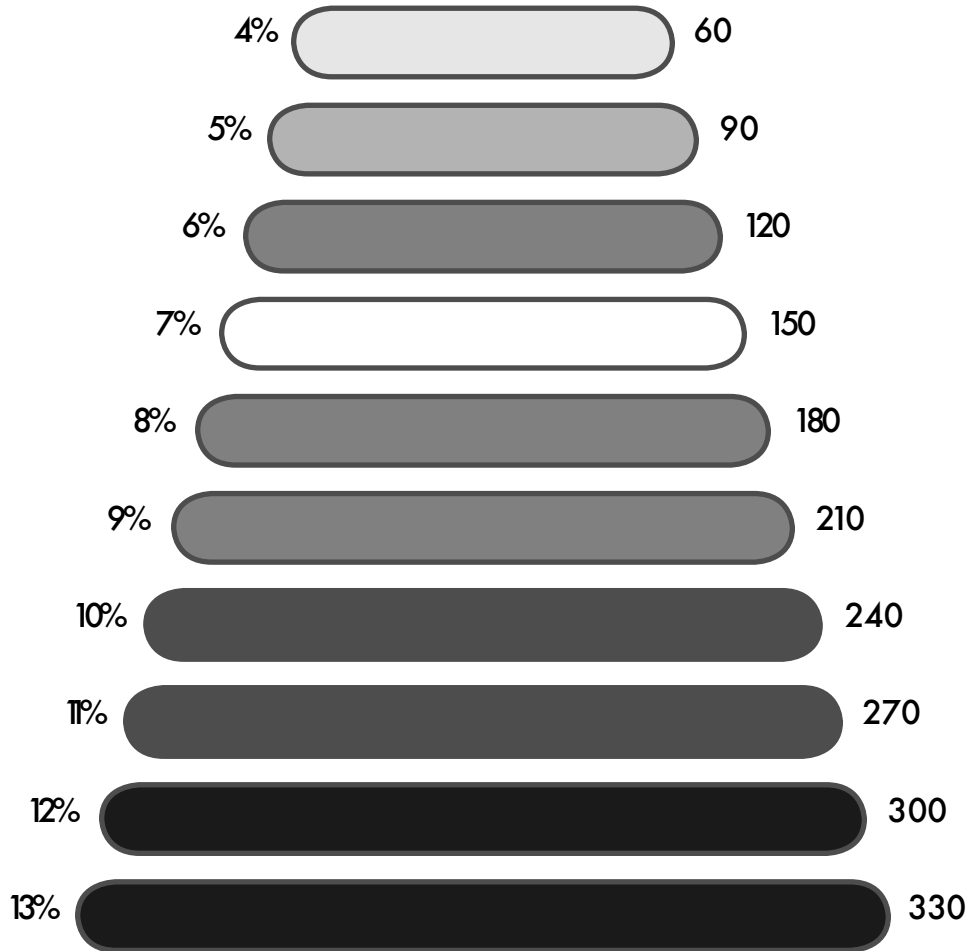
How ready are you to make this change?

Not at all Somewhat Fairly Mostly Very

take control - set goals



hemoglobin A1C, HbA1C



Green	Good	A normal HgA1C = 4-6%
Yellow	Caution	Good for diabetic - 7%
Red	Stop, danger	Need to make changes - 8% Danger - Above 8%

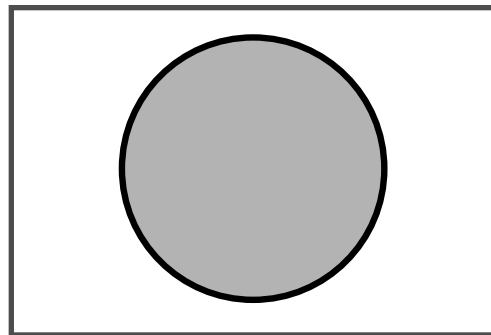
You should ask your doctor how often he plans to check your HbA1C.
It is recommended that you have it checked:

- When you are first told that you have diabetes.
- If you are on insulin every three months.
- If not taking insulin, then no less than every six months.
- As your doctor orders it.

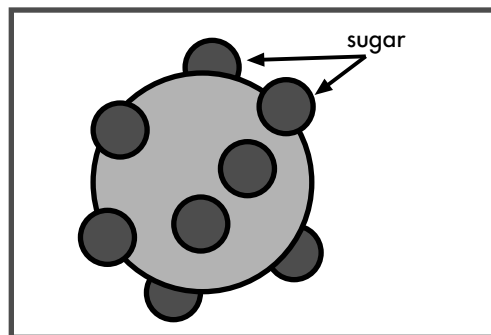
glycosylated hemoglobin , hemoglobin HbA1C or A1C

This is a measure of the amount of sugar that is on your red blood cells. It gives you an average of what your blood sugar has been for the last 3 months.

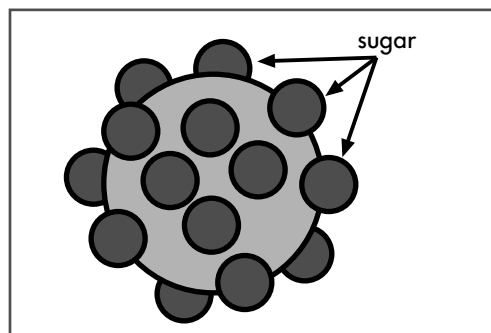
Red blood cells live in your body for 120 days.



Red blood cell



NormalA1C



HighA1C

goals for control

TEST	GOAL
Fasting/Pre-meal glucose	80-120 mg/dL
Post-meal glucose 2 hr. after start of meal	100-140 mg/dL
Bedtime glucose	100-140 mg/dL
HbC 1c	<7%
Blood pressure	<130/80 mmHg
Microalbumin	<30 mg/24 h or <20 ug/min on a time specimen or <30 mg/g creatine on a random sample
Lipids	
LDL Cholesterol	<100 mg/dL
HDL Cholesterol	>45 mg/dL (male) >45 mg/dL (female)
Total Cholesterol	<200 mg/dL



managing your diabetes checklist

Here are some key things you need to do. Keep this list handy and refer to it often.

Things to do every day:

- Test your blood sugar and write it down in your logbook
- Check your feet
- Follow your meal plan
- Take care of teeth and skin
- Take your medicines as directed

Things to do at each doctor's visit:

- Take your blood sugar logbook with you. Your logbook will help your doctor help you.
- Ask about your HbA1c level and determine your goal for your next visit.
- Have your doctor check your feet. Taking off your shoes and socks will help you remember.
- Have your blood pressure checked.

Things to do once a year:

- Visit an eye doctor for a complete dilated eye exam.
- Have your blood fat level checked (called a lipid screen.)
- Have your urine checked for protein (called a microalbumin screen.)
- Visit your foot doctor (podiatrist) for a complete foot exam.

Sick day rules:

- Always take your insulin or diabetes pills.
- Test your blood sugar before each meal and at bedtime.
- Test your urine for ketones if blood sugars are greater than 240 mg/dL.
- Follow your meal plan if you can eat. If you can't eat, you should try to take in at least 4 oz. of sugar-containing beverage every hour to keep your blood sugar from falling too low.

Call your doctor when:

- You are vomiting and unable to keep down foods, liquids or diabetes pills.
- Your illness lasts longer than 24 hours.
- Ketones are present in your urine.
- All blood sugars are higher than 240 mg/dL for more than one day.

healthy choices with diabetes

Eat less fat

Fat in our diet comes from fat that we add to our foods (butter, margarine, salad dressings, mayonnaise, oil, cream) and from foods that are naturally high in fat (sausage, bacon, hot dogs, fatty cuts of beef, cheese, regular ice cream, chips, nuts, etc.).

Already doing	Need to change	Will try to do	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1. Eat smaller portions of meat. (Target size is a deck of cards.)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2. Eat fish or poultry more often.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3. Choose lean cuts of beef.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4. Trim fat from meat before cooking.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5. Remove skin from poultry.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6. Avoid fried foods.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7. Roast, bake, broil, boil or grill meats.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8. Avoid high fat cold cuts and hot dogs.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9. Avoid bacon and sausage.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10. Switch to lower fat milk.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11. Eat low fat cheese.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12. Limit snacks of nuts, chips and high fat popcorn.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	13. Choose dried beans, peas and lentils more often.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	14. Other: _____

Eat healthy carbohydrates

Carbohydrates in our diet give us the energy we need to be healthy. Simple sugars such as table sugar, syrup, jellies, and sweet drinks raise blood sugar faster. Other carbohydrates are high in fiber and help control blood sugar, help reduce risk of heart disease and cancer, and help prevent constipation.

Already doing	Need to change	Will try to do	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15. Limit portion sizes of carbohydrates (starches, fruits, milk and sweets.)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16. Avoid regular soft drinks (each can has 9-10 teaspoons sugar). Diet varieties are okay.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17. Eat more vegetables (try for 2 cups per day).
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	18. Eat whole fruit (fresh or not packed in syrup) instead of juice.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	19. Choose whole grain types of bread, cereal and crackers.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	20. Switch to sugar-free gelatin, pudding, jelly, syrup and sugar substitute.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	21. If you eat sweets, limit portions or eat only on special occasions.

healthy choices with diabetes

Eat regular meals

Eating your meals too close together may make too much sugar or fat build up in your blood. Skipping meals may allow your blood sugar to fall too low or cause you to overeat at your next meal.

Already doing	Need to change	Will try to do	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	22. Eat at least 3 times per day.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	23. Leave 3-6 hours between the times that you eat.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	24. If you eat snacks, make the portions of your meals smaller.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25. Other: _____

Practice healthy habits

Already doing	Need to change	Will try to do	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	22. See a dentist regularly.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	23. Brush/floss teeth every day.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	24. Check your blood as instructed and write down your results.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25. Check and moisturize feet every day.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	26. Take medications as prescribed.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	27. Keep your health care appointments.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	28. See an eye doctor every year.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	29. Limit intake of alcohol.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	30. Limit added salt.

Increase physical activity

Regular exercise that moves your legs and/or arms hard enough to get your heart beating faster is good for you. It helps your body clear sugar and fat out of your blood and helps you lose weight.

Already doing	Need to change	Will try to do	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	22. Pick a time of day that you are more likely to exercise.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	23. Choose at least 3 days per week to exercise.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	24. Find a friend to exercise with.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25. Climb the stairs more often through the day.

I, _____, agree to attempt to make these changes over the coming weeks.
If I start to struggle with these changes, I will call my dietitian or nurse educator,
_____ to re-evaluate my plan.

Date: _____
Date: _____
Date: _____
Date: _____

Goal #: _____
Goal #: _____
Goal #: _____
Goal #: _____

Signature: _____ Date: _____

class notes

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.